USER MANUAL

ODYSSEY 7Q+

convergent design

HDMI™ HIGH-DEFINITION MULTIMEDIA INTERFACE

ProRes

ProRes 422 (HQ)
ProRes 422
ProRes 422 (LT)

4K

Updated August 3, 2015 2:39 PM | Firmware Release 2015.7

Contents

INTRODUCTION 2

PACKAGE CONTENTS 3

OVERVIEW 4

- Features 4
- Specifications 5

RECORDING CAPABILITIES 6

- Included Free with Odyssey7Q+ 6
- Odyssey RAW Bundle *(available online)* 7

RECORD TIME CAPACITIES 9

- Apple ProRes & Uncompressed DPX 9
- RAW Recording Formats 10

RECORDING OPTION RENTALS 12

- Rental Activation Keys 12
- Parameters for Rentals 12

SSD MEDIA 13

- Convergent Design SSD Media 13
- Qualified Third-Party SSD Media 13
- Certified vs. Qualifieds SSD Media 13
- Odyssey Utility Drive 13
- SSD for Firmware Updates 13

ODYSSEY ANATOMY 14

- Physical Cahracteristics 14
- Mechanical Drawings 16

ODYSSEY REMOTE TRIGGER 17

GETTING STARTED 18

- Odyssey Activation 18
- Initializing 18
- Powering Down 19
- Setting Up & Using the Odyssey 19
- The Odyssey Menu 19
- Demo Mode 19

MENU SYSTEM 20

- Odyssey ☼ Menu 20
- Upper Tool Bar (Record Mode) 21
- Upper Tool Bar (Play Mode) 35
- Lower Tool Bar (Play Mode) 36

WORKING WITH MEDIA 37

- Recording to SSD Media 37
- Loss of Power During a Record 37
- Downloading Media 37
- OTHER FILES ON SSD MEDIA 37
- File Storage 38

SOFTWARE UTILITIES 39

- CD Data Unpacker 39
- CD Clip Merger 39
- CD Apple ProRes Transfer Utility 39
- CD 3D-LUT Converter 40

POST PRODUCTION 41

- Working with Recorded Files 41
- Uncompressed Support (DPX sequence) 41
- Apple ProRes 42
- FS700 RAW Support (DNG Sequences) 43
- FS700 RAW: Dealing with RAW Files 43
- FS700 FCP X Import Settings 44
- Canon C500 4K RAW Support 44
- ARRI Alexa ARRIRAW Support 44

ACCESSORIES 45

- Convergent Design Accessories 45
- Third Party Accessories 48

RELEASE NOTES 49

- Firmware Version 2015.8 49
- Firmware Version 2015.7 51
- Earlier Versions 52

LIMITED WARRANTY 53

APPENDIX 54

- Monitor/Record Options 54
- Online Resources 55

Convergent Design, Inc.
4525 Northpark Drive
Colorado Springs, CO 80918

Tel: ++(720)221-3861
Email: CDSupport@convergent-design.com
Website: Convergent-Design.com

Updated August 3, 2015 2:39 PM | Firmware Release v2015.8

BEFORE YOU BEGIN USING THE ODYSSEY, WE STRONGLY SUGGEST YOU REVIEW THE INCLUDED QUICK START GUIDE. WE ALSO STRONGLY RECOMMEND THE FOLLOWING:

1. Always record to the INTERNAL MEDIA OF THE CAMERA; this is critical for proper timecode and ideal for dual media / backup.
2. DO NOT REMOVE THE FOUR SCREWS FROM REAR OF CASE. This may result in damage to the OLED panel. Such damage is not covered by warranty.
3. Power and Cabling: Make sure you have PROPER POWER (6.5-34VDC), plugged in to the proper power port (left side of recorder), and that 3G-rated SDI cables are used.
4. Power source must be able to provide up to 24 watts at all times to the Odyssey.
5. When powering the Odyssey from an ARRI ALEXA camera, we recommend using the 24V R/S Fischer-3 output from the ALEXA using the optional Convergent Design cable.
6. Familiarize yourself with the equipment and test prior to shooting.
7. Before using the SSDs it is IMPERATIVE TO FORMAT them in the Odyssey. Formatting SSD media is a DESTRUCTIVE PROCESS; any existing data will be lost during format.
8. Ensure that the camera's viewfinder data is not being recorded; IF YOU SEE VIEWFINDER DATA ON THE ODYSSEY monitor, then it will be recorded! In a future update, if your camera can provide both clean and data-overlayed video feeds, it will be possible to monitor one while recording the other.
9. NEVER DELETE ANY FILES OFF AN SSD FROM A COMPUTER, except when going through a firmware update procedure.
10. While we recommend that you always maintain the latest firmware on your Odyssey, WE DO NOT RECOMMEND UPDATING FIRMWARE IF YOU ARE IN THE MIDDLE OF A SHOOT (unless specifically instructed to do so by our Technical Support staff).
11. When offloading media, ALWAYS MAKE A BACKUP COPY, ideally to a RAID1 drive.
12. Be sure to allow the Odyssey to finish closing a Record file before taking any further action.
13. Always safely eject SSD Media by pressing the button before removing SSD media from the Odyssey.

Package Contents

Included with Odyssey7Q+

- **Odyssey7Q+ Monitor/Recorder**
- **256GB Odyssey SSD**
- **5-Pack Odyssey SSD Handles**
- **Odyssey Universal Power supply**
- **Mini HDMI Adpater.**
- **36” HDMI Cable**
- **36” 3G-SDI Cable**

Additional SSD Media and other accessories are sold separately.

ProRes 422 (HQ)
ProRes 422
ProRes 422 (LT)

Features

Monitoring

PROFESSIONAL MONITOR: 7.7" 1280x800 OLED panel featuring true blacks, and accurate color with a full range color gamut for REC709 or DCI-P3 viewing.

IMAGE ANALYSIS TOOLS: Waveform, Vectorscope (in future update), Histogram, False Color exposure view, Zebra, three-mode Focus Assist, Pixel Zoom (1:1 & 2:1), LUTs, and Frame Guides.

MULTI-STREAM MONITORING: up to four HD video signals can be input and viewed simultaneously (quad-split) or live-switched (choose between inputs for full screen display). A future paid update will allow Multi-Stream Recording of up to four simultaneous Apple ProRes 422 (HQ) files and an XML log file of the live switch.

FLEXIBLE I/O: two dedicated 3G-SDI inputs, two dedicated 3G-SDI outputs, two switchable 3G-SDI input/outputs, one HDMI input, one HDMI output. Active Cross-Conversion means that all outputs are always active regardless of which input is used.

Recording

HIGH-CAPACITY RECORDING: Two high-speed solid state Drives (SSD), available in 256GB, 512 GB and 1TB capacities allow for extended recording.

4K / UHD / 2K / HD VIDEO RECORDING: Record 4K (4096x2160), UHD (3840x2160), 2K (2048x1080) and HD (1920x1080, 1280x720) Video in Apple ProRes 422 (HQ).

The Odyssey7Q+ can record 4K/UHD 10-bit or 1080p60 10-bit over HDMI.

UNCOMPRESSED 4:4:4 RGB VIDEO RECORDING: Record 2K (2048x1080) and HD (1920x1080) Video in 12-bit or 10-bit uncompressed DPX files.

RAW RECORD OPTIONS: Optional recording features available at any time for purchase (Odyssey RAW Bundle) or daily rental (for individual record option licenses).

Odyssey RAW Bundle Includes:

- **ARRIRAW (ALEXA)**
- **CANON RAW (C500, C300mkII)**
- **SONY RAW (FS7/FS700)**
- **POV RAW (Indiecam and IO Industries cameras)**

Specifications

Focus Assist	Video + Edges (Peaking), Edges Only, Enhanced Edges, user choice of color: Red, Green, or Blue
Zebras	Dual adjustable zebra exposure indicators, selectable colors
False Color	False Color with 6 programmable levels & adjustable ranges
Monochrome	Grayscale monitoring mode, view Luma or individual red, green or blue color channels
Waveform	Luma only, RGB Parade, Red only, Blue only, Green only, Full Size and Compact Size Options
Histogram	Luma only, RGB Parade, Red only, Blue only, Green only, Full Size and Compact Size Options
Vectorscope	75% & 100% saturation color targets, analog or digital trace, green or true CbCr trace color, 1-15x magnification
Pixel Zoom	Image Magnification with frame drag, magnification factors of 1:1, 2:1, 4:1, 6:1, 8:1, 10:1, 12:1
Frame Adjust	Anamorphic Desqueeze, 17:9 letterbox, Automatic Image Flip (defeatable) , Programmable Aspect Ratio Guides
Multi-Stream Display	Display four independent 1080 or 720 HD streams simultaneously (Quad-split) with live-switch capability - 4 x SDI or 3 x SDI & 1 HDMI
Digital Audio I/O	2-channel SDI or HDMI embedded audio (48KHz, 24-bit)
Analog Audio I/O	3.5mm port for line level 2-channel unbalanced or 1-channel balanced input up to -10dB, 48KHz, 24-bit, 3.5mm stereo headphone output, adjustable
Remote & Timecode**	Timecode: LTC I/O (BNC) or embedded SDI / HDMI, (FUTURE) RS-232 I/O programmable GPIO.
User Interface	Capacitive Touchscreen, three mechanical keys
DC Power Input	6.5 to 34VDC with built-in reverse polarity protection; locking power connector, built-in power switch
Power Draw	8 watts (monitor only), 9 to 19 watts (depending on record mode)
Sound Level	Silent, no fan or vents
Weight and Size	560 grams / 1.2 lbs., 7.9” x 6.1” x 1.0” (200 x 155 x 25 mm), -10 to +40°c (Operating), -20 to +70°c (storage)
Operating Temperature	-10 to +40°c (Operating) -20 to +70°c (Storage)
Output Downscaling	Output 1080p HD via HDMI or SDI from 4K/UHD source (allows for additional on-set monitoring)
Record Triggers	Touchscreen, SDI record trigger (ARRI, CANON, PANASONIC, RED, SONY), HDMI (SONY, CANON, PANASONIC), Timecode, Remote Cable (Optional Accessory)
Recording Media (Dual SSD Slots)	Convergent Design Premium 2.5” SSDs with power-loss protection, in 256GB, 512GB and 1 TB sizes, 420Mb/sec write, 500Mb/sec read speed, compatible with USB 3.0 and Thunderbolt Adapters. SSDs and adapters sold separately. Select Samsung SSDs also supported.
Recording Formats (Compressed)	Apple ProRes 422 (HQ) / Apple ProRes 422 / Apple ProRes 422(LT) 4K/UHD 10-bit YCC 422 up to 30 fps 2K/1080p 10-bit YCC 422 up to 60 fps 1080i 10-bit YCC 422 up to 60i 720p 10-bit YCC 422 up to 60 fps
Recording Formats (Uncompressed)	2K/1080p RGB 10/12-bit 444 up to 30fps, in DPX File Format 1080p RGB 10-bit 444 up to 60fps, in DPX File Format

(Additional recording formwats are available with the purchase of the Odyssey RAW Bundle)

Included Free with Odyssey7Q+

The Odyssey can record a variety of video signals. With the purchase of the Odyssey RAW Bundle or rental of individual recording options (available online) the Odyssey is capable of recording RAW output from certain cameras. *With an optional multi-stream upgrade available in the near future the Odyssey will also be able to record up to four HD video signals simultaneously.*

Video Recording	**4K/UHD (4096x2160, 3840x2160):** Apple ProRes, 4:2:2 YCC 10-bit / 23.98p, 24p, 25p, 29.97p
	2K/HD (2048x1080, 1920x1080): Uncompressed video in DPX stacks, 12-bit/10-bit 4:4:4 / 23.98p, 24p, 25p, 29.97p, 30p
	2K/HD (2048x1080, 1920x1080): Uncompressed video in DPX stacks, 10-bit 4:2:2 (recorded as 4:4:4) / 23.98p, 24p, 25p, 29.97p, 30p, 50p, 59.94p, 60p
	2K/HD (2048x1080, 1920x1080): Apple ProRes, 4:2:2 YCC 10-bit / 23.98p, 24p, 25p, 29.97p, 50p, 59.94p, 60p, 50i, 60i
	HD (1280x720): Apple ProRes, 4:2:2 YCC 10-bit / 50p, 60p
	4K/UHD video over 4 x SDI feeds, 2 x SDI feeds (source dependent) or HDMI
	4K/UHD Video over HDMI - supersampled to 2K/HD - Recorded as Apple ProRes
	4K Video over HDMI up to 24p, UHD Video over HDMI up to 30p - 10-bit
	2K/HD video over SDI up to 60p
	HD (1080) over HDMI up to 60p; HD (720) over HDMI up to 60p

MULTI-STREAM HD Video Monitoring *NOTE: this is a monitoring mode only. A future option will allow recording of up to four HD video signals.*	SDI and HDMI accepted 1080p/psf / 23.98, 24, 25, 29.97, 30, 50i, 60i
	SDI and HDMI accepted 720p / 50, 60
	Display four independent 1080 or 720 HD streams simultaneously (Quad-split). Includes capability to mix 1080 & 720 signals.
	OLED display divided into quadrants or a single input may be selected for full screen display. Live-switch between inputs directly.
	Inputs are SDI A, SDI B, SDI A I/O, SDI B I/O and HDMI (signals auto-detected; [SDI A] must always be present).
	HD video signals do not need to be Genlocked.
	HD video signals do not need to match frame rates or resolutions.
	NOTE: If feeding video from a switcher to Odyssey7Q+, the switcher must have internal frame synchronizers or the cameras input to the switcher must be genlocked.

ProRes

Apple ProRes Recording

Odyssey supports recording Apple ProRes 422 (HQ), Apple ProRes 422 and Apple ProRes 422 (LT). Files are saved in .MOV format.

PRORES 422 (HQ)	The Apple ProRes 422 (HQ) codec offers the utmost possible quality for 4:2:2 or 4:2:0 sources (without an alpha channel) and provides the following: • Target data rate of approximately 220 Mbps (1920 x 1080 at 60i) • Higher quality than Apple ProRes 422
PRORES 422	The Apple ProRes 422 codec provides the following: • Target data rate of approximately 145 Mbps (1920 x 1080 at 60i) • Higher quality than Apple ProRes 422 (LT)
PRORES 422 (LT)	The Apple ProRes 422 (LT) codec provides the following: • Roughly 70 percent of the data rate of Apple ProRes 422 (smaller file sizes than ProRes 422) • Higher quality than Apple ProRes 422 (Proxy)

Odyssey RAW Bundle *(available online)*

All recording option upgrades are available for demo on the Odyssey7Q+, but will appear with a blue or pink line "watermark" across the recorded image.

Recording options are available to purchase as a permanent license (Odyssey RAW Bundle) or rent on a daily basis from the Convergent Design website at Convergent-Design.com/products/odyssey-raw.html.

Please note that record option upgrades (rental or purchase) are delivered in the form of activation keys that are specific to the unit for which they are purchased and cannot be transferred between units.

SONY FS7/FS700 RAW The Odyssey7Q/ Odyssey7Q+ support SONY FS7/FS700 4K & 2K RAW and high quality video derived from RAW. *(Available for purchase with the Odyssey RAW Bundle or daily rental)*	**RAW Recording (FS 4K/2K RAW recorded as .DNG files)** FS 4K RAW / 23.98, 25, 29.97, 50*, 59.94* FS 2K RAW / 23.98, 25, 29.97, 50, 59.94, 100, 119.88, 200*, 239.76* **Apple ProRes Recording (derived from RAW camera output)** FS 4K RAW -> 4K Apple ProRes / 23.98, 25, 29.97, 50, 59.94 FS 4K RAW -> UHD Apple ProRes / 23.98, 25, 29.97, 50, 59.94 FS 4K RAW -> 2K Apple ProRes / 23.98, 25, 29.97, 50, 59.94 FS 4K RAW -> HD Apple ProRes / 23.98, 25, 29.97, 50, 59.94 FS 2K RAW High Speed -> HD Apple ProRes / 100, 119.88, 200, 239.76** **440 Frame Burst Mode (FS700 Only)** FS 4K RAW 440 Frame Burst / 100*, 119.88* FS 4K RAW Burst -> 4K Apple ProRes / 100, 119.88 FS 4K RAW Burst -> UHD Apple ProRes / 100, 119.88 FS 4K RAW Burst -> 2K Apple ProRes / 100, 119.88 FS 4K RAW Burst -> HD Apple ProRes / 100, 119.88
	** NOTE: High data rate of RAW at 4K50p, 4K59.94p, 4K100p burst, 4K119.88p Burst, 2K200p and 2K239.76p require recording to two SSDs simultaneously.* *** NOTE: 2K High Speed ProRes currently cannot span SSDs. In this mode the Odyssey7Q+ will only allow recording with one SSD mounted.*

More Info: Convergent-Design.com/products/odyssey-raw/sony-fs700.html

ARRI ALEXA ARRIRAW The Odyssey7Q/ Odyssey7Q+ support all ARRIRAW fomats and frame rates output by Alexa Classic cameras. *(Available for purchase with the Odyssey RAW Bundle or daily rental)*	ARRIRAW data is recorded as .ari files.
	ARRIRAW 16:9 / 23.98, 24, 25, 29.97, 30, 48*, 50*, 59.97*, 60*
	ARRIRAW 4:3 / 23.98, 24, 25, 29.97, 30, 48* **Future Firmware Update for 4:3 Support*
	**NOTE: ARRIRAW above 30fps requires two SSDs to simultaneously record. In a future firmware update only one SSD will be required for all frame rates.*

More Info: Convergent-Design.com/products/odyssey-raw/arri-alexa.html

CANON C500 Cinema RAW The Odyssey7Q/ Odyssey7Q+ support CANON C500 4K RAW. Future firmware updates will support "Slow & Fast" mode, and other C500 formats. *(Available for purchase with the Odyssey RAW Bundle or daily rental)*	CANON Cinema RAW data is recorded as .RMF files.
	4K RAW to 4K Apple ProRes / 10-Bit / 23.98, 24, 25, 29.97, 30
	QHD RAW to UHD Apple ProRes / 10-Bit / 23.98, 24, 25, 29.97, 30
	Supported 4K/QHD RAW / 23.98, 24, 25, 29.97, 30, 50*, 59.94*, 60 4K Half RAW 50, 59.94, 100*, 120*
	2K/1080p 12-bit/10-bit 4:4:4 support / 23.98, 24, 25, 29.97
	**NOTE: CANON RAW 50-60p and Half RAW 100-120p requires two SSDs to simultaneously record.*

More Info: Convergent-Design.com/products/odyssey-raw/canon-c500.html

POV RAW Supports several industrial/ special use cameras' RAW outputs. *(Available for purchase with the Odyssey RAW Bundle or daily rental)*	IO Industries Flare 2KSDI: 2K/HD 10-Bit RAW / 23.98-60p
	Indiecam indieGS2K: 2K/HD 10-Bit RAW / 60-120p
	Indiecam indieGS2K: HD 10-Bit RAW / 23.98-60p
	Indiecam indieGS2K: HD 12-Bit RAW / 23.98-60p
	NOTE: RAW data is recorded as .DNG files.
	NOTE: Video outputs do not require Record Option.

More Info: Convergent-Design.com/products/recording-options/pov-raw.html

Available with a Future Firmware Release...

MULTI-STREAM Recording Supports recording up to four HD streams simultaneously via 3G-SDI and HDMI *(Will be available for purchase and/or daily rental in the near future - NOT INCLUDED IN ODYSSEY RAW BUNDLE)*	Additional specifications will be made available upon release.
	*NOTE: Multi-Stream **Monitoring** is active with UNIT activation and does not require the purchase of this record option* *DUAL-STREAM AND MULTI-STREAM RECORDING ARE NOT INCLUDED IN THE ODYSSEY RAW BUNDLE AND MUST BE PURCHASED SEPARATELY WHEN IT BECOMES AVAILABLE.*

ProRes

ProRes 422 (HQ)
ProRes 422
ProRes 422 (LT)

Apple ProRes & Uncompressed DPX

The Odyssey can record numerous video and data formats such as Apple ProRes and uncompressed DPX, which are included free with the Odyssey. The chart below indicates maximum record time in minutes based on the use of two 512 GB SSDs (1TB). For 512 GB (one 512 GB SSD or two 256 GB SSDs), divide in half. For 256 GB, divide by four. For 2TB (two 1TB SSDs), multiply by two. Record time capacities vary based on format.

Recording Format	24fps	25fps	30fps	50fps	60fps
Apple ProRes 422 (HQ) *(Included FREE)*					
4K Apple ProRes 422 (HQ)	157	151	126		
UHD Apple ProRes 422 (HQ)	168	161	134		
2K Apple ProRes 422 (HQ)	629	603	503	301	251
1080p Apple ProRes 422 (HQ)	670	643	536	322	268
1080i Apple ProRes 422 (HQ)				642	536
720p Apple ProRes 422 (HQ)				724	604
Apple ProRes 422 *(Included FREE)*					
4K Apple ProRes 422	220	212	176		
UHD Apple ProRes 422	264	252	212		
2K Apple ProRes 422	964	924	772	460	384
1080p Apple ProRes 422	1060	1016	848	508	424
1080i Apple ProRes 422				1016	848
720p Apple ProRes 422				924	772
Apple ProRes 422(LT) *(Included FREE)*					
4K Apple ProRes 422 (LT)	328	316	264		
UHD Apple ProRes 422 (LT)	408	392	324		
2K Apple ProRes 422 (LT)	1324	1272	1060	636	528
1080p Apple ProRes 422 (LT)	1516	1456	1212	728	604
1080i Apple ProRes 422 (LT)				1456	1212
720p Apple ProRes 422 (LT)				1456	1212
Uncompressed DPX *(Included FREE)*					
2K Uncompressed DPX (RGB 444 12-bit)	71	68	56		
2K Uncompressed DPX (RGB 444 10-bit)	78	74	62		
1080p Uncompressed DPX (RGB 444 12-bit)	75	72	60		
1080p Uncompressed DPX (RGB 444 10-bit)	83	79	66	40	33

Information provided for comparison purposes only. Features and specifications are subject to change without notice.

RAW Recording Formats

With the purchase of the Odyssey RAW Bundle or rental of a recording option upgrade (available online) the Odyssey7Q+ is capable of recording RAW output from certain cameras. The chart below indicates maximum record time in minutes based on the use of two 512 GB SSDs (1TB). For 512 GB (one 512 GB SSD or two 256 GB SSDs), divide in half. For 256 GB, divide by four. For 2TB (two 1TB SSDs), multiply by two. Record time capacities vary based on format.

Recording Format	24fps	25fps	30fps	50fps	60fps	100fps	120fps	200fps	240fps
SONY FS7/FS700 RAW Recording Option *(Included in the Odyssey RAW Bundle or available for daily rental)*									
FS 4K RAW	50	49	40	24	20				
FS 2K RAW	200	192	160	96	80	48	40	24	20
FS 4K RAW to 4K Apple ProRes 422 (HQ) “4K->4K”	157	151	126	76	63				
FS 4K RAW to UHD Apple ProRes 422 (HQ) “4K->UHD”	168	161	134	81	67				
FS 4K RAW to 2K Apple ProRes 422 (HQ) "4K->2K"	629	603	503	301	251				
FS 4K RAW to HD Apple ProRes 422 (HQ) “4K->HD”	670	643	536	322	268				
FS 4K RAW to 4K Apple ProRes 422 “4K->4K”	220	212	176	106	88				
FS 4K RAW to UHD Apple ProRes 422 “4K->UHD”	264	252	212	126	106				
FS 4K RAW to 2K Apple ProRes 422 "4K->2K"	964	924	772	460	384				
FS 4K RAW to HD Apple ProRes 422 “4K->HD”	1060	1016	848	508	424				
FS 4K RAW to 4K Apple ProRes 422 (LT) “4K->4K”	328	316	264	158	132				
FS 4K RAW to UHD Apple ProRes 422 (LT) “4K->UHD”	408	392	324	196	162				
FS 4K RAW to 2K Apple ProRes 422 (LT) "4K->2K"	1324	1272	1060	636	528				
FS 4K RAW to HD Apple ProRes 422 (LT) “4K->HD”	1516	1456	1212	728	605				
FS 2K RAW High Speed to HD Apple ProRes 422 (HQ) "2K->HD"						161	134	81	67
FS 2K RAW High Speed to HD Apple ProRes 422 "2K->HD"						254	212	127	106
FS 2K RAW High Speed to HD Apple ProRes 422 (LT) "2K->HD"						364	303	182	151
FS700 High Speed Burst Mode: 440 frames @ 100p (4.4s) or 120p (3.7s)									
FS 4K RAW Burst to 4K RAW (155 takes in 1TB)						12	10		
FS 4K RAW Burst to 4K Apple ProRes 422 (HQ)						37	31		
FS 4K RAW Burst to 4K Apple ProRes 422						57	48		
FS 4K RAW Burst to 4K Apple ProRes 422 (LT)						79	66		
FS 4K RAW Burst to UHD Apple ProRes 422 (HQ)						39	33		
FS 4K RAW Burst to UHD Apple ProRes 422						63	53		
FS 4K RAW Burst to UHD Apple ProRes 422 (LT)						91	75		
FS 4K RAW Burst to 2K Apple ProRes 422 (HQ)						148	124		
FS 4K RAW Burst to 2K Apple ProRes 422						228	192		
FS 4K RAW Burst to 2K Apple ProRes 422 (LT)						316	264		
FS 4K RAW Burst to HD Apple ProRes 422 (HQ)						156	132		
FS 4K RAW Burst to HD Apple ProRes 422						252	212		
FS 4K RAW Burst to HD Apple ProRes 422 (LT)						364	300		

Record Time Capacities

Recording Format	24fps	25fps	30fps	50fps	60fps	100fps	120fps	200fps	240fps
ARRI ALEXA Recording Option *(Included in the Odyssey RAW Bundle or available for daily rental)*									
ARRIRAW 16:9	90	87	72	43	36				
CANON C500 Recording Option *(Included in the Odyssey RAW Bundle or available for daily rental)*									
Canon 4K RAW	56	54	45	27	23	30	25		
Canon 4K Half RAW				54	45	27	23		
Canon QHD Raw	60	58	48	29	24				
Canon 4K RAW to 4K Apple ProRes 422 (HQ)	157	151	126						
Canon QHD RAW to UHD Apple ProRes 422 (HQ)	168	161	134						
Canon 4K RAW to 4K Apple ProRes 422	220	212	176						
Canon QHD RAW to UHD Apple ProRes 422	264	252	212						
Canon 4K RAW to 4K Apple ProRes 422 (LT)	328	316	264						
Canon QHD RAW to UHD Apple ProRes (LT)	408	392	324						
POV RAW Recording Option *(Included in the Odyssey RAW Bundle or available for daily rental)*									
POV 2K 10-bit RAW	252	242	202	121	101				
POV HD 10-bit RAW	269	258	215	129	107	64	54		
POV HD 12-bit RAW	222	213	178	106	89				

Rental Activation Keys

Rental Activation Keys may be purchased though our website for Sony FS7/FS700 RAW, Canon C500 Cinema RAW, the ARRI Alexa ARRIRAW and POV RAW recording options. Please visit the links in the Recording Capabilities section for more information.

Parameters for Rentals

Rentals are based on a 24 hr period, Rentals can be added to the unit in daily (24 hour)increments up to a maximum of 30 days at a time.

A rental starts the first time a record is performed in the rental codec, then the 24 hour clock starts.

Note that during a 24 hr rental period you will not be allowed to adjust the clock after the first record. Thus users must set a central time, or choose a timezone that will best fit all of their given locations in that 24 hr period.

- After 24 hours a user may adjust the clock as needed, till the next record is performed.
- Rentals are unit specific, by the unit serial number, and must be purchased via our website. Once a rental key is input into a unit, there is no way of retrieving or transferring the rental to another unit.
- To activate a rental simply enter the 8 character key into the unit's activation section.
- To check the status of an active rental touch the codec box.
- When a rental period has two days remaining, the rental text will change to yellow.
- When a rental period has one day remaining, the time will display in the form of minutes and will be flash for the last hour.
- When there is one minute remaining, if a record is started, that entire clip will be recorded without a watermark regardless of length up to a maximum of 80 mins. (In other words, will let you finish your last take, which can be a maximum of filling up both drives, based on a RAW format.
- After the final clip the time remaining will change back to a white 0 mins.

For more information or to purchase Rental Options please visit our the Recording Options page of our website at Convergent-Design.com/products/recording-options.

For support with Rental Options visit us online at Convergent-Design.com/support

Convergent Design SSD Media

To enable recording on the Odyssey, Convergent Design Odyssey SSDs or third party SSDs qualified by Convergent Design must be used. Odyssey SSDs are available in 256GB, 512GB and 1TB. Odyssey SSDs are available for purchase separately and one 256GB SSD is included with purchase of an Odyssey7Q+.

Odyssey SSDs

256GB Odyssey SSD	CD-SSD-256GB
512GB Odyssey SSD	CD-SSD-512GB
1TB Odyssey SSD	CD-SSD-1TB

Qualified Third-Party SSD Media

Convergent Design has qualified five models of Samsung SSDs for use in Odyssey monitor/recorders. Only qualified SSDs or Odyssey SSDs will function in Odyssey 7.7" monitor/recorders. SSDs mount into the Odyssey monitor/recorders with a latching handle. A five-pack kit of SSD handles is included with the Odyssey7Q+ monitor/recorder and additional SSD handle kits are available for purchase separately.

Qualified Third Party SSD Models

Samsung 850 PRO in 128GB, 256GB, 512GB and 1TB capacities
Samsung 850 EVO in 1000GB capacity

Certified vs. Qualifieds SSD Media

Odyssey SSDs are certified to work in Odyssey monitor/recorders. Convergent Design tests and sells these SSDs, so the company has oversight to warranty their performance. The above listed Samsung SSDs are qualified to work in Odyssey monitor/recorders. While multiple samples have been tested extensively by Convergent Design, we do not directly sell this media so Convergent Design cannot warrantY individual 3rd party SSDs. Convergent Design Customer Support is available to our clients 24/7, but we may not be able to successfully support third-party product to the same extent as our own products.

Odyssey Utility Drive

The Odyssey Utility Drive is designed as a lower cost alternative to the Odyssey Premium SSD media for secondary tasks. The Odyssey Utility Drive can be used for Odyssey firmware updates and future functionality such as 3D-LUT files.

The Convergent Design SSD Utility Drive *will not record video files*. It is intended for Odyssey owners who do not wish to tie up an SSD with utility features, or for Odyssey owners who use their devices as monitors and do not need to purchase the more expensive recording media.

Utility Drive for Odyssey	CD-SSD-UTILITY

SSD for Firmware Updates

Convergent Design periodically issues firmware updates for the Odyssey, improving and adding functions.

An Odyssey SSD, qualified third-party SSD or Odyssey Utility Drive is required to make firmware updates.

Physical Caharcteristics

Odyssey7Q+ - Bottom

There are eleven connector ports on the bottom side of the Odyssey7Q+ (left to right)

PWR ON	Power input socket to Odyssey (see Getting Started – Power). Just in front of the PWR ON port is a button, which is a Force Power On/Off control. Hold button five seconds to force power off. This is only to be used if standard power on or off procedures fail (see Getting Started – Initializing).
SDI A IN	BNC connector for 3G-SDI input A
SDI B IN	BNC connector for 3G-SDI input B
LTC IO	BNC connector for Linear Timecode input/output
SDI A IO	BNC connector for 3G-SDI input/output A. In Multi-Stream monitoring mode, the Odyssey can accept up to four HD video inputs. These IO ports allow additional inputs or additional outputs for the Odyssey.
HDMI OUT	Output 1920x1080 to HDMI device.
SDI B IO	BNC connector for 3G-SDI input/output B. In Multi-Stream monitoring mode, the Odyssey can accept up to four HD video inputs. These IO ports allow additional inputs or additional outputs for the Odyssey.
SDI A OUT	BNC connector for 3G-SDI output A
SDI B OUT	BNC connector for 3G-SDI output B
AUDIO IN	3.5mm mini-phone stereo socket for analog audio in. This input will be enabled in a free future firmware update.
AUDIO OUT	3.5mm mini-phone stereo headphone socket.

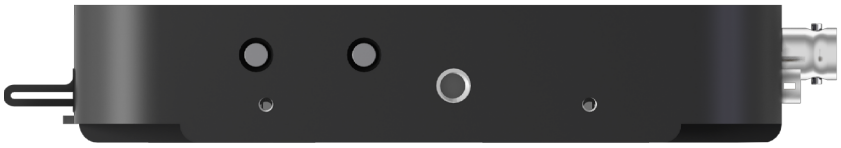
Odyssey7Q+ - Top

There are two Solid State Drive (SSD) slots, SSD1 and SSD2.

Only Convergent Design Odyssey SSDs or qualified third-party SSDs can be used to capture video on the Odyssey. The Odyssey Utility Drive can be used for firmware updates and other future functions, but not to record video files. To mount SSD, insert connector-end first with the label facing forward and the handle near flush with the back of the Odyssey. Push gently but firmly until the handle flange is flush with the top of the Odyssey. It is a snug fit, but the SSD should insert smoothly.

Odyssey7Q+ - Left Side

There are two Function buttons, F1 LOCK and F2 SHUT DOWN.



F1 LOCK	Lockout control for the Odyssey touchscreen. Push to engage and SCREEN LOCK will appear in the center of the touchscreen's Upper Tool Bar. Push F1 again to disengage. Engaging F1 also re-calibrates the touchscreen.
F2 SHUT DOWN	Preferred method to power down the Odyssey. Properly closes files on the SSDs and performs other maintenance functions (see Getting Started -- Powering Down). Push to activate prompt asking SAFELY POWER DOWN UNIT? *In a future free firmware update it will be possible to program these buttons for additional functions.*

Odyssey7Q+ - Right Side

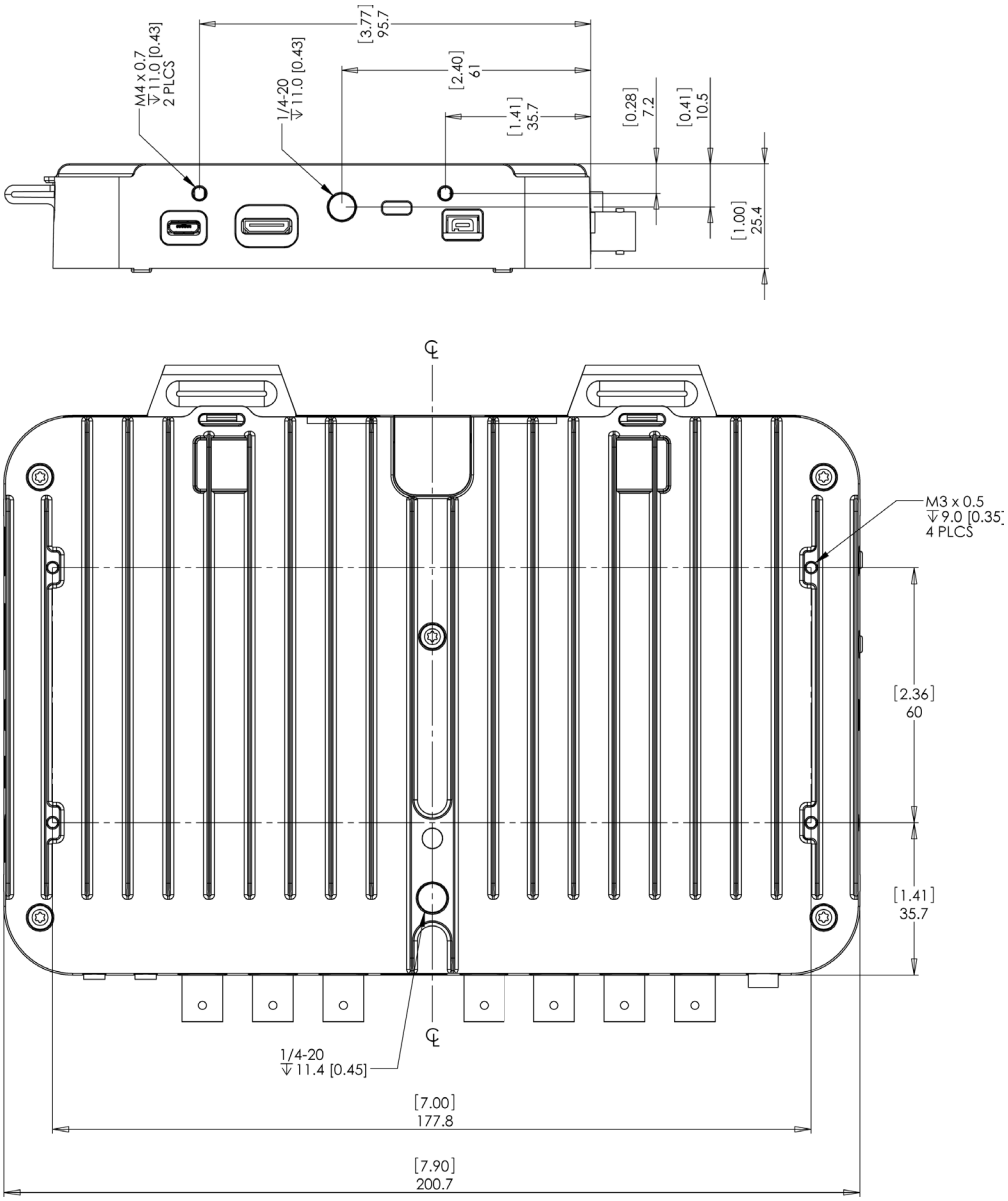
There are three connector ports, (top to bottom) USB, HDMI OUT and RMT.

USB	An access point for servicing by Convergent Design.
HDMI IN	HDMI 1.4a (Mini HDMI) input port
RMT	A remote control connection to the Odyssey. In a future free firmware update the RMT port will allow control interface with functions of the Odyssey.
KENSINGTON LOCK PORT	A rectangular hole above the RMT port is for accepting a Kensington Security Lock.

Mounting

The Odyssey features three ¼-20 threaded sockets, one on the lower rear of the case and one each on the left and right sides of the case. Do not exceed 11mm of depth when inserting a bolt, otherwise damage may occur to the Odyssey. Additionally, there are four M3 threaded sockets on the rear of the case and two M4 sockets on each of the sides of the case.

Mechanical Drawings



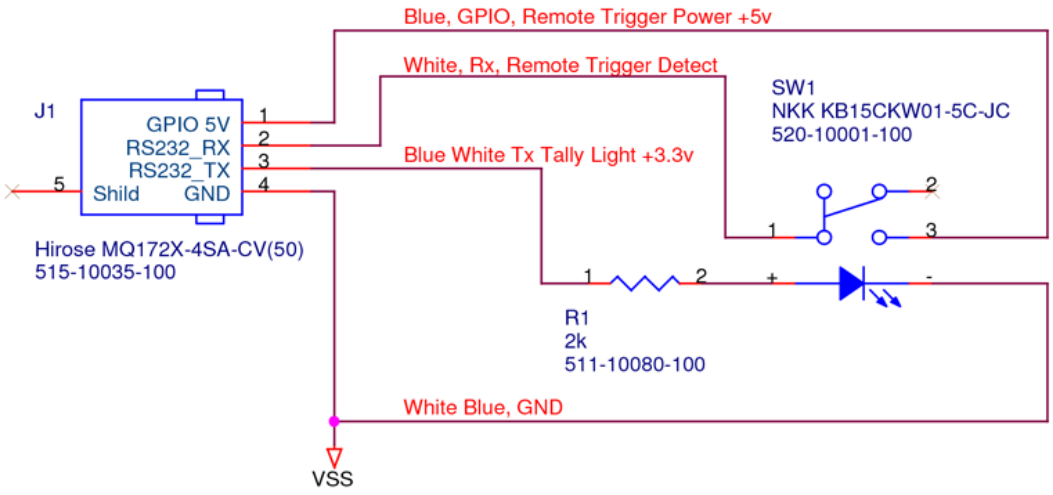
Odyssey Remote Trigger

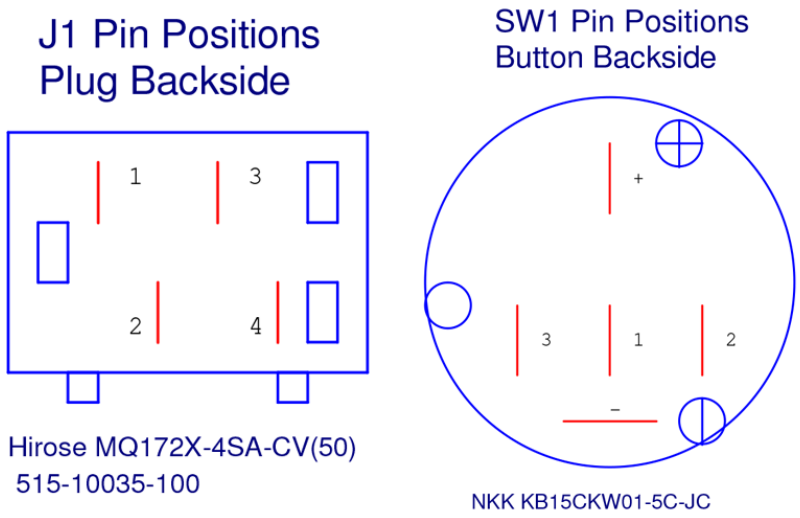
Scan for online Knowledgebase article

The Convergent Design Odyssey Remote Trigger is a pushbutton active remote start/stop trigger for Odyssey monitor/recorders. Remote Trigger feature has been enabled in firmware version 5.10.100 in HD ProRes recording only. The trigger button illuminates while recording. The trigger plugs into the RMT port on the left side of the Odyssey and comes in a six foot standard cable length.

Contact your dealer about ordering part number CD-OD-REMOTE. Custom cable lengths and breakout cables for triggering multiple Odysseys are available for special order.

You may also have a custom cable made if you need a special length or would like to trigger multiple units with one remote. Please see the wiring diagram and other information below.





Odyssey Activation

Convergent Design requires each Odyssey to be registered via our website. This is so that we can provide notices of free firmware updates, issue alerts for critical issues, and track rentals or purchases of record options.

Upon first initializing of the Odyssey (*see INITIALIZING below*), a prompt will appear asking if the device is to be Activated at this time or if it is to be used in DEMO mode. In DEMO mode the Odyssey is fully functional, however a blue or pink bar "watermark" will appear in any recorded video.

In order to Activate the Odysseyafter initial purchase, go to Convergent-Design.com to create a free account and activate your unit. When you have logged into your new account (or logged into your existing account) you will be able to Add a Device to your account and you will be provided the Basic Activation Key for your device.

The Activation prompt will appear upon every initialization of the Odyssey until the device is Activated. When Activate is selected, follow the prompts to Activate the Odyssey using the Basic Activation Key you were given on the website.

QUICK LINKS

REGISTRATION: Create a free account on Convergent-Design.com

ACTIVATION: Add a Device to your account and receive the Basic Activation Key

ACCOUNT INFO: Visit your Dashboard to view your device and account information

Also, make sure your Odyssey has the latest firmware, posted here:

FIRMWARE: Convergent-Design.com/support/firmware-downloads.html

See Firmware Updates under the Appendix below for more information on how to install new firmware on your Odyssey.

Initializing

Plug in power to the Odyssey. It should take about 5-10 seconds to initialize, depending on the mode it is set to. If the Odyssey does not self-initialize, push the **PWR ON** button next to the power socket on the lower left corner of the Odyssey.

As part of the initializing process, SMPTE color bars may appear briefly on the screen. If there is a signal input into SDI A IN that matches the record format the Odyssey is set to, then the image should appear on the screen. If there are SSDs mounted in the Odyssey then a DETECTING SSD message will appear on the lower left of the

screen. If the SSD needs to be re-initialized or formatted, a second message may appear. If the Trigger Button in the Upper Tool Bar appears as a red box surrounding a white circle, then the Odyssey is ready to record.

Powering Down

While it may seem an odd time to note this, it is important to know that there is a preferred method to shutting down the Odyssey. On the left side of the case, the F2 SHUT DOWN button should be pressed. This prompts a confirmation to "SAFELY POWER DOWN UNIT?"

Powering down in this fashion properly closes the files and directory system on the SSDs, preventing corruption. If the Odyssey should ever suffer a failure and the F2 SHUT DOWN sequence does not function properly, the unit can be Force Power Off by holding the PWR ON button by the power socket on the lower left corner of the Odyssey, or simply by pulling the power connector out of the power socket. If the Odyssey is ever powered down in this fashion, it is important to run a recovery on the SSDs in the Odyssey menu at MENU » ODYSSEY » SSDs » RECOVER SSD1 » RECOVER SSD2.

Setting Up & Using the Odyssey

The touch screen of the Odyssey features all of the device's controls in a straightforward, easy to navigate structure. Each box is a "virtual button." Tap it briefly to activate/deactivate it, or hold it for a few seconds to open up the menu defining its function. The controls at the top of the display (Upper Tool Bar) are the recording, playback and formatting administration. The controls at the bottom of the display (Lower Tool Bar) are the image analysis adjustments.

The Odyssey Menu

Starting on the left, tapping the button brings up the initial setup menus for the Odyssey. Don't be intimidated by the number of selections in the section. This is by far the most in-depth section of the Odyssey touchscreen menus. More information about the Odyssey Menu System is available on the following pages.

Demo Mode

Out of the box the Odyssey is in DEMO MODE and must be owner-registered with Convergent Design. On the Odyssey a watermarking blue bar will appear on the lower third of the image both on the OLED and in the recording while in DEMO MODE. The Record Options are also available in their own DEMO MODE even once the unit is activated, so that they may be tested but will show a blue bar in the frame. Activation of each Record Option eliminates the blue bar.

To activate the Odyssey after initial purchase, go to Convergent-Design.com, create a free user account and add the device to your account. When you add a device to your account you will be provided with the Basic Activation Key for that device. Once this is completed, any time you wish to purchase or rent a Record Option, return to the Convergent Design website and purchase or rent the option through our online store. Upon payment the website will present an activation key which can then be entered into the Odyssey by tapping the appropriate selection under the Activation menu. To see if a selection has been enabled, tap on the option's button to see if ACTIVE appears.

Odyssey ☼ Menu

The ODYSSEY Menu allows you to access basic device settings. This is where you can view and enter activation keys, set date, time & metadata, format & recover SSDs and view information about the device such as the firmware version and serial number. It is accessed by tapping ◘ then tapping **ODYSSEY**.

ODYSSEY →	→	Option	Description	Notes
SET	ACTIVATION	UNIT	Enter Key or 'OK'	For activating Odyssey (required)	Tap to reveal a key code prompt. To activate the Odyssey after initial purchase, go to Convergent-Design.com, create an account and add the device. Once this is completed, anytime one wishes to purchase or rent a recording option, return to the Convergent Design website and follow the prompts. The website will present a code which can then be entered into the Odyssey7Q on the [activation] menu page. To see if a selection has already been enabled, tap on that option's button to see if ACTIVE appears.
		FS700 RAW	Enter record option key using on-screen keyboard Shows ACTIVE if a key has been entered for the record option.	RAW output of Sony FS7 or FS700	
		CANON RAW		RAW output of Canon C500	
		ARRIRAW		RAW output of ARRI ALEXA	
		POV RAW		RAW output of various industrial and specialty use cameras such as IO Industries or IndieCam	
		MULTI-STREAM		*(Available in a future firmware update)* Record up to four HD signals simultaneously (Multi-stream monitoring is active with UNIT activation.)	
	DEMO MODE: ALL AVAILABLE RECORD OPTIONS ARE FUNCTIONAL IN A DEMO MODE, BUT IF THE OPTION HAS NOT BEEN ACTIVATED THE IMAGE FOR THAT OPTION WILL APPEAR WITH A LARGE BLUE BAR "WATERMARK" ON SCREEN WHEN RECORDING. THIS BAR IS RECORDED IN THE IMAGE FILE.			
	SSDS	ERASE & FORMAT SSD1	Permanently erases everything on SSD1.	FORMATTING IS A DESTRUCTIVE PROCESS AND WILL ERASE ANY FILES CURRENTLY ON THE SSD. BE SURE TO DOWNLOAD ALL FILES BEFORE FORMATTING.
		ERASE & FORMAT SSD2	Permanently erases everything on SSD2.	
		ERASE & FORMAT BOTH	Permanently erases everything on both cards.	
		REBUILD SSD1	Non-destructively recovers /rebuilds file system of SSD1	Use only in extreme cases (such as if a computer corrupts the SSDs file system).
		REBUILD SSD2	Non-destructively recovers /rebuilds file system of SSD2	
	PLEASE NOTE: Formatting should be performed at the start of use of any new SSDs and the start of any new project. Recovery is for when the SSD was not properly dismounted from the Odyssey. This includes physically removing the SSD without running the eject sequence, sudden loss of power to the Odyssey or improper powering down of the Odyssey. The Recover process accesses any incomplete files on the SSD and, when possible, properly closes them. NOTE: FORMATTING OF SSDs SHOULD ALWAYS BE PERFORMED ON THE ODYSSEY.			
	TIME	Set the appropriate time.		IMPORTANT FOR RECORDING OPTION RENTALS
	DATE	Set the appropriate date.		
	RESET	MENU	Restore all default settings.	Does not effect firmware version or record options.
		METADATA	Resets metadata fields	
		ALL (FACTORY DEFAULTS)	Resets all settings	
		RESET (DELETE) LUTS	Deletes User LUTs	
	ABOUT	Displays the firmware version, serial number, warranty status, and which Options are activated. Check our website regularly to ensure you are running the current firmware.		

The remainder of the ◘ menu replicates controls available on the Upper Tool Bar when the Odyssey is in RECORD mode.

SETUP

Controls for Camera Type, Recording Format, and Trigger. Replication of RECORD STATUS button controls (for details see page 21)

INPUTS

Controls for video and timecode inputs. Replication of INPUT/OUTPUT STATUS button (Input Control Settings) (for details see page 19)

OUTPUTS

Controls for video outputs. Replication of INPUT/OUTPUT STATUS button (Output Control Settings) (for details see page 20)

AUDIO

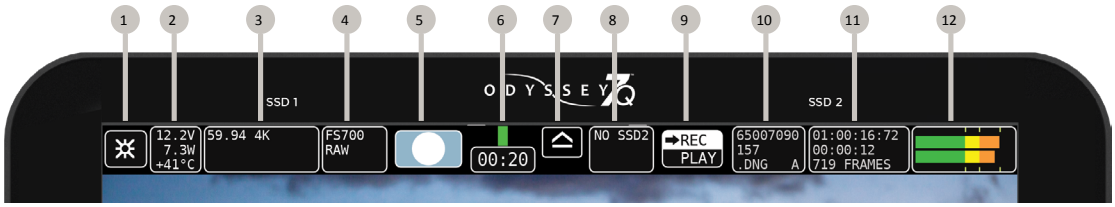
Controls for Audio settings. Replication of AUDIO STATUS button (for details see page 23)

Congratulations! You are through the ☼ menu. Everything gets easier from here. Please note that many of these controls are also available in the rest of the Upper Toolbar.

Upper Tool Bar (Record Mode)

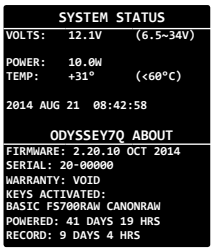
Tapping the REC/PLAY Button toggles the Upper Tool Bar between Play mode and Record mode. Upper Toolbar selections are different in Play Mode than in Record Mode. Some buttons appear in all modes while others will only appear in a certain mode.

Upper Tool Bar Controls (Record Mode)



1. ☼ MENU BUTTON
2. SYSTEM STATUS
3. INPUT/OUTPUT STATUS (REC MODE ONLY)
4. RECORD STATUS (REC MODE ONLY)
5. TRIGGER BUTTON (REC MODE ONLY)
6. SSD1 STATUS
7. SSD SAFE EJECT
8. SSD2 STATUS
9. REC/PLAY TOGGLE
10. CLIP METADATA
11. LAST TAKE
12. AUDIO

System Status (All Modes)



Displays critical specs of Odyssey7Q. Input voltage, Current wattage draw of Odyssey (varies with mode), current temperature of main processor. Tapping button brings up more detailed information including the ABOUT menu of the Odyssey7Q.

The Odyssey has a wide internal operating temperature window, up to 65° Celsius (149° Fahrenheit). The Odyssey uses its magnesium case to passively shed excess heat.

There are no vents or fans in the Odyssey7Q. Even under most harsh conditions, the Odyssey should not suffer any operational issues due to heat. However, if the internal temperature of the Odyssey rises high enough there are a series of warnings and safeguards in place to protect the device and the recorded files.

TEMPERATURE WARNINGS AND SAFEGUARD

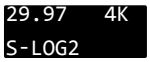
	System Status Text & Warning	Operational Protection
59° C	Yellow text	No change to operation
61° C	Red text & flashing warning	New recordings prevented
65° C	Red text & flashing warning	Current recording stopped

The Odyssey has a wide range of acceptable voltage for incoming power, from 6.5 volts to 34 volts. The total wattage draw from the Odyssey varies depending on the operational mode it is set to, but is always within a very modest range from less than 8 watts to no more than 15 watts. This allows a variety of battery options to be used with the device. While there are file recovery parameters in place, it is never a good idea to lose power while in the midst of recording. If the incoming voltage to the Odyssey drops low enough there are a series of warnings and safeguards in place to protect the device and the recorded files.

LOW POWER WARNINGS & SAFEGUARDS

	System Status Text & Warning	Operational Protection
6.7v	Yellow text	No change to operation
6.5v	Red text & flashing warning	New recordings prevented
6.0v	Red text & flashing warning	Current recording stopped

Input/OUTPUT Status (Record Mode ONLY)



Displays current video input signal type. Tapping button brings up detailed information on Input and Output signals, record mode and frame rates.

Input Control Settings

VIDEO CADENCE:

This identifies the cycling of the signal coming into the Odyssey and how it is to be recorded.

Available Cadences:

PROGRESSIVE/PSF: For video signals structured as True Progressive (p) or Progressive Segmented Frames (PSF).
INTERLACED: For HD video signals structured as interlaced fields (i). Records a 1080i50 or 1080i60 video signal without alteration. Note that some cameras carry progressive video embedded within an interlaced signal. See 3:2 Pulldown below.
REMOVE 3:2 PULLDOWN (TO 24P): For 24p video signals striped within a 60i signal. Extracts the 24p video, records it as 1080p24 and discards the excess fields for greater efficiency and smoother post.

TIMECODE SOURCE:

Allows selection for origination of timecode. Note that some video sources do not carry timecode data and at high frame rates some cameras do not generate timecode. In these cases the Odyssey will generate a Record Run timecode from its internal clock. LTC not supported when recording ARRIRAW.

Available Timecode Sources

SDI/HDMI (embedded in incoming signal)
LTC (input from external source to LTC port)
TIME-OF-DAY NDF (Odyssey internal clock, non-drop frame counting)
TIME-OF-DAY DF (Odyssey internal clock, drop frame counting)
SEED/RECORD RUN (Set timecode counter, increments while recording)

TEST PATTERN:

Displays reference image on OLED and video outputs. Current available test pattern is SMPTE color bars.

4K/2K VIEWING:

Determines monitoring of 17:9 video signals on OLED and video outputs.

Available Viewing Options

LETTERBOX 17:9: Shows full frame with black borders above and below image. NOTE: Reduction of image may cause aliasing in monitored image.
CENTER CUT 16:9: Shows center 16:9 portion of 17:9 frame.

ANAMORPHIC DESQ:	Horizontally stretches image to correct for use of optical anamorphic lenses. Image altered on OLED screen as well as SDI and HDMI outputs. Does not affect recording. Options are labeled in squeeze multiplier and displayed aspect ratio. Full Frame options always show full width and height of recorded signal. Center Extraction options show popular extracted frames. **OFF: i**mage unaltered **FULL FRAME:** **1.33x (2.37:1):** 1.33x horizontal stretch, 2.37:1 aspect ratio **1.5x (2.67:1):** 1.5x horizontal stretch, 2.67:1 aspect ratio **2.0x (3.56:1):** 2.0x horizontal stretch, 3:56:1 aspect ratio **CENTER EXTRACTION:** **1.33X (1.78:1):** Stretches center 4:3 image to cover 16:9 frame **2.0x (2.39:1):** 2.0x stretch with image zoom & borders to crop to 2.39:1 **2.0x (2.67:1):** 2.0x stretch with image zoom to crop to 2.67:1
LEGALIZE HDMI:	Adjusts for incoming video signals that may extend beyond the broadcast-legal range of 0-100 IRE.

Output Control Settings

The settings of the OUTPUTS menu allow adjustments to the video outputs of the Odyssey7Q+. The OUTPUTS menu is accessed by tapping * then tapping OUTPUTS.

VIDEO PSF OUT:	On/Off control to switch video outputs from True Progressive (p) to Progressive Segmented Frames (psf) signal structure. This improves compatibility with some third-party equipment.
RECORD TALLY:	On/Off control to activate Tally record status indicator over SDI and HDMI outputs. Tally appears as colored bar at bottom of image. Green Tally indicates ready to record and Red Tally indicates recording in progress.
CUSTOMIZE SDI A:	Allows for signal overlay onto SDI A OUT video. LUT OFF sends out the video signal or representation of the RAW data signal with no alteration. LUT ON applies the LUT image adjustment as selected in the LUT menu. MIRROR OLED applies whatever overlays are present on the OLED panel, including LUT and monitoring tools activated such as Waveform.
CUSTOMIZE SDI B:	Allows for signal overlay onto SDI B OUT video. LUT OFF sends out the video signal or representation of the RAW data signal with no alteration. LUT ON applies the LUT image adjustment as selected in the LUT menu. MIRROR OLED applies whatever overlays are present on the OLED panel, including LUT and monitoring tools activated such as Waveform.

CUSTOMIZE HDMI:

Allows for signal overlay onto HDMI OUT video.
LUT OFF sends out the video signal or representation of the RAW data signal with no alteration.
LUT ON applies the LUT image adjustment as selected in the LUT menu.
MIRROR OLED applies whatever overlays are present on the OLED panel, including LUT and monitoring tools activated such as Waveform.

Record Status (Record Mode ONLY)

4K->4K PRORES

Displays current recording format. Tapping button brings up detailed information on recording format and frame rates as well as controls for setting monitoring and recording modes. *If a rented Record Option is in use, the remaining time is noted here.*

Mode/Record Options

CAMERA:

Tapping status boxes brings up a list of selections for each. Choice of CAMERA determines MONITOR -> RECORD selections for that camera. CAMERA also determines Trigger, Timecode and LUT integration.

Available cameras:

Sony FS7/FS700
Sony (F3, F5 and F55 and others)
Canon (C500 and others)
ARRI (ARRI Alexa)
POV RAW (IndieCam and IO Industries)
Other (sundry HD video sources)
Panasonic
RED
Multi-Stream (up to 4 HD video sources, monitoring only)

MONITOR->RECORD

Displays options for the currently selected camera
(See the MONITOR-->RECORD OPTIONS chart in APPENDIX (p59) *(for full list of options in this menu selection)*

VIDEO CODEC

Displays current recording format. In compressed recording, tap status box for list of options. Currently available compressed video formats include Apple ProRes 422 (HQ), Apple ProRes 422 and Apple ProRes 422 (LT).

RECORD TRIGGER:

Allows selection of record trigger mechanism for Odyssey7Q. Note that some cameras do not output trigger signals over SDI or HDMI.

AVAILABLE RECORD TRIGGERS

RECORD BUTTON (Tap Record Button on Upper Toolbar to start/stop recording)
CAMERA (Use camera's trigger to stop/start recording -- trigger output must be enabled on camera)
TIMECODE (Use detection of timecode incrementing to start/stop recording -- Odyssey TIMECODE must be set to SDI/HDMI or LTC and timecode source set to Record Run)
REMOTE (Use the Convergent Design Remote Trigger accessory to start/stop recording. Currently only available for HD Apple ProRes recording.)

PROJECT RATE:

Determines playback frame rate from the SSDs. Note that all incoming frames are always recorded, Project Rate only determines the intended playback speed, which can always be changed in post. The Project Rate can follow the incoming source frame rate or be set to a specific rate for faster or slower than real time playback.

FOLLOWS INPUT is the default setting, automatically aligning to the incoming framerate at speeds 60p and below. At higher incoming frame rates, 100/200p signals have a default Project Rate of 25p and 120p/240p signals default to 24p. This allows an even division of frames for smooth playback.

Available Project Rates

FOLLOWS INPUT (default setting)
23.98 FPS
24.00 FPS
25.00 FPS
29.97 FPS
30.00 FPS
48.00 FPS
50.00 FPS
59.94 FPS
60.00 FPS

TRIGGER button (Record Mode ONLY)

Displays status of recording mode. When button is Red with a white circle it is ready to record. When Gray there is no signal available to record. While recording, the button is Blue with a white square and the background of the entire top menu is Red. If REC Button is selected as the trigger then tapping button triggers record start/stop

⚙ » SETUP » RECORD TRIGGER: » RECORD BUTTON
or tap on Record Status » RECORD TRIGGER: » RECORD BUTTON

SSD1 Status (All Modes)

02:12

Displays record time available given current settings (HH:MM). Tapping button brings up detailed information on SSD1 status. Formatting and rebuilding options are also available here.

Safe Eject (All Modes)

Prompts a confirmation to Safely Eject one or both of the SSDs. This is the proper method for dismounting and ejecting SSDs so that the files and directories can be closed properly.

SSD2 Status (All Modes)

02:12

Displays record time available given current settings (HH:MM). Tapping button brings up detailed information on SSD2 status. Formatting and rebuilding options are also available here.

Rec/Play (All Modes)

Displays current status as to whether Odyssey is in RECORD or PLAY mode. Tapping button toggles between modes. NOTE: Playback Mode changes the upper and lower tool bars. See Play Mode, below.

Clip metadata (All Modes)

Displays current recording format. Tapping button brings up detailed information on recording type and frame rates. *If a rented Record Option is in use, the remaining time is noted here.*

Last Take button (Record Mode ONLY)

Displays timecode start and elapsed time of last recorded take. Tapping button brings up detailed information of the last take recorded.

Audio Status (All Modes)

Displays audio levels. Tap button for Audio Display/Control settings.

Audio Meters settings

SHOW (display audio levels as BARS or numerical VALUES)
BAR COLORS (set yellow level to -20 or -18 dB)
METERS (turn ON or OFF audio levels display)

AUDIO Options

AUDIO CHANNELS:	Currently locked to two channels. Future firmware updates will allow up to eight audio channels.
AUDIO SOURCE:	Allows selection of audio input source. SDI/HDMI (embedded in incoming signal) ANALOG (analog 2-channel input via AUD IN port) *Currently available only for HD Apple ProRes recording.*
HEADPHONE OUT(dB):	Volume adjustment of AUD OUT port.
ANALOG MIX IN:	For analog audio input via AUD IN port, select between STEREO UNBALANCED (two discreet channels) or MONO BALANCED (one source to record over both channels).
ANLG GAIN IN(dB):	Adjust analog audio input levels for AUD IN port.

Lower Tool Bar (Record Mode)

In addition to being a high quality recorder of multiple formats, the Odyssey is also a full-featured production monitor. The Lower Tool Bar activates and controls the monitoring tools and image analysis functions.

OLED

OLED

Tapping button brings up OLED monitor settings. Controls are for the Odyssey OLED panel only and will not affect the recorded signal or the signal from any of the device's outputs. The Odyssey7Q+ display is capable of presenting the full contrast and color gamut of both the REC709 and DCI-P3 standards.

Assuming a standard, properly attenuated video signal from the camera source, the display defaults are 100% for SATURATION, CONTRAST, BRIGHTNESS, Red/Green/Blue GAINS and R/G/B BIASES. Adjustable ranges are 50%-140%. BASE standard is Medium and COLOR GAMUT is REC.709. Unless otherwise noted, any standard video source accepted by the Odyssey7Q+ should be a REC709-compliant signal, not DCI-P3, which is for digital cinema displays.

ORIENTATION controls the vertical orientation of the image on the OLED display.
TEST PATTERN replaces the video signal with SMPTE color bars. This is the only control that also affects the video outputs.
MORE TOOLS alternates two buttons on the Lower Tool Bar between monitoring tool functions. Toggle between FALSE COLOR / MONOCHROME and HISTOGRAM / VECTORSCOPE (for details see pages 33 & 35).

Guide

GUIDE

Tapping button activates Frame Guides. Holding button brings up the Frame Guides settings. Presets available are 1.33:1, 1.85:1 and 2.39:1. Press CREATE CUSTOM GUIDE to bring up the Custom Guide menu. Name and save up to four custom frame guides. Left/Right control sets frame sides. Top/Bottom control sets frame lids. Linking adjusts Left/Right or Top/Bottom together. Rectangle eliminates lines outside inner box. Select colors between White | Black | Red | Green | Blue | Yellow. Up to four custom frame guides plus one preset frame guide can be displayed at the same time.

LUT

LUT

Tapping button activates the chosen LUT on the OLED display. Holding button brings up the LUT menu.

A Look Up Table (LUT) is a set of exposure, contrast and color offsets to adjust an image. Originally designed as a tool to indicate on one display how an image would appear on a different type of display, LUTs have expanded to also become tools to preview color grading decisions. The Odyssey7Q+ includes numerous 3D-LUTs for previewing the LOG video outputs of several popular cameras in standard REC709 contrast and color. The RAW record options also feature monitoring LUTs.

SELECTING LUTS

Holding LUT button brings up the LUT menu. LUTS can be selected from an SSD, the PRESET LUTS folder, or one of three custom LUT folders (for details see below). A list of available LUTs from each source will appear in the menu and a LUT can be selected by tapping on it. Additional LUTs can also be downloaded from the Convergent Design website.

ROUTING LUTS

Once a LUT is selected, it can be output to various locations. Tapping LUT button activates the LUT on the OLED display. In the LUT menu, CUSTOMIZE OUTPUTS brings up the LUT routing controls. SDI A OUT, SDI B OUT and HDMI OUT can be individually addressed for LUT output, as can the MONITORING TOOLS.

LUT OFF sends out the video signal or representation of the RAW data signal with no alteration.
LUT ON applies the LUT image adjustment as selected in the LUT menu.
MIRROR OLED applies whatever overlays are present on the OLED panel, including LUT and monitoring tools activated such as Waveform.

This means that the Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

Likewise, the individual video outputs can always display the original image (LUT OFF), always display a LUTted image (LUT ON), or mimic whatever is displayed on the OLED, including the overlay of the monitoring tool on the image (MIRROR OLED).

In a future free firmware update, it will also be possible to choose to record video files to the SSD with a LUT applied.

CUSTOM LUTS

The Odyssey7Q+ also supports custom 3D-LUTs imported into the device. Standard .cube (aka Image Cube) files are supported in 17x17x17, 33x33x3 and 65x65x65 bit depths. These can commonly be generated in programs such as Resolve or Pomfort LiveGrade.

LOADING CUSTOM LUTS

LUTs must be saved on a computer and then imported into the CD LUT Utility (available for download on the Convergent Design website) for translation into the Odyssey LUT format. Load LUTs onto an Odyssey SSD or Utility Drive and mount in the Odyssey7Q+. Select IMPORT FROM SSD in the LUT menu to read SSD for LUTs. LUTs can be PREVIEWED by tapping on individual file name, but a destination folder must be selected in order to load LUTs onto the Odyssey7Q+. There are three folders for imported LUTs and up to 150 LUTs can be stored within them.

LUT RANGE

The video signal from 0 to 100% can be represented by the “Legal Range” from 64 to 940, or by the “Extended Range” from 0 to 1023. A Legal Range representation can carry values outside the 0-100% range. An Extended Range representation cannot. LUTs are designed to expect either a Legal or Extended Range input and produce a Legal or Extended Range output. The designations LL (Legal in, Legal out) or EE (Extended In, Extended Out) are sometimes used in LUT names to indicate this. The Odyssey preset LUTs are all EE. Custom LUTs may not be. The LUT RANGE control allows selection of the range type of LUT being used.

METADATA

Tapping the METADATA button opens the LUT FILE METADATA menu. For each LUT, a Project or camera can be marked, and a notes field is also available.

MANAGE LUTS

Tapping the MANAGE LUTS button opens the LUT Management menu. Custom LUTs can be deleted from the folders and folders can be renamed.

Focus

FOCUS

Tapping button activates Focus Assist. Holding button brings up the Focus Assist settings. There are three styles of Focus Assist available.

PEAKING

Edge detection based on contrast, with variable sensitivity. Image can be displayed with edges highlighted in red, green, blue, black white or yellow. Or only detected edges can be displayed as white, with other image elements in black.

REVEAL

A more aggressive, complex focus detection system. Sharper objects highlighted, with a variable sensitivity control. Can be combined with Peaking under that control's menu.

ENHANCE

Simple edge enhancement display. Allows for easier judging of focus by artificially augmenting sharpness on the OLED display.

Zoom

ZOOM

Pixel Zoom enlarges a section of the image on the OLED panel to better judge focus and other aspects of the image. The resolution of the video area of the OLED panel is 1280x720. 1:1 zoom and 2:1 zoom enlarge a select section of the image to a pixel-for-pixel crop. 1:1 shows a 1280x720 crop from a 2K/HD signal, 2:1 shows a 1280x720 crop from a 4K/UHD signal.

Hyper Zoom modes show a reference window on the image and an enlarged representation of the image within that window on the lower right corer of the OLED screen. Hyper Zoom modes include 4:1, 6:1, 8:1, 10:1 and 12:1. When the Odyssey7Q+ is set to a 4K->HD SuperSampling mode, the Pixel Zoom functions reference the original higher resolution image.

To adjust the area of the image referenced in any Pixel Zoom mode, drag a finger or stylus on the OLED screen. The movement can be selected to drag the image within the window or to move the window over the image. In 1:1 and 2:1, tap Zoom Window box to re-center image. In Hyper Zoom modes, select from six colors for the outline of the reference window.

Timecode

00:12:16:04

At the center of the Lower Tool Bar is a counter displaying timecode.
This counter displays hours, minutes, seconds and frames in the format 00:00:00:00.

False Color

FALSE

Tapping button activates False Color. Holding button brings up False Color settings. False Color is an exposure reference tool, attributing different colors to various brightness portions of the image. Available colors are Red, Yellow, Pink, Green, Blue and Purple. A video signal is measured in a scale from -7 to 109, often marked as a % or with the suffix IRE.

Brightness range for each color can be individually selected with a high and low setting or that color can be switched off. Ranges can overlap, and any exposure value not selected will be indicated in a monochrome brightness. There is a reference bar at the bottom of the image indicating the exposure range each color represents.

TOOLS: LUT OPTIONS

The False Color tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

MORE TOOLS

This setting alternates the button on the Lower Tool Bar to the right of the timecode display between the FALSE COLOR tool and the MONOCHROME DISPLAY tool.

Monochrome

MONO

Tapping button activates Monochrome. Holding button brings up the Monochrome settings. Monochrome represents the individual color channels (Red/Green/Blue) or the overall brightness (Luma) in a gray scale image.

TOOLS: LUT OPTIONS

The Monochrome tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

MORE TOOLS

This setting alternates the button on the Lower Tool Bar to the right of the timecode display between the FALSE COLOR tool and the MONOCHROME DISPLAY tool.

Zebra

ZEBRA

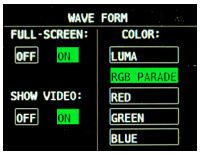
Tapping button activates Zebras. Holding button opens Zebras settings. A Zebra stripe (/////) is an exposure tool to indicate any part of the image that is at a particular brightness. There are two Zebra stripe patterns, ///// and \\\\\. Each Zebra pattern can be represented in Black, White, Red, Green, Blue, Yellow, Cyan, or Magenta colored stripes, and the underlying image is visible in between the stripe lines. Brightness range for each Zebra pattern can be individually selected with a high and low setting or that Zebra pattern can be switched off. Ranges can overlap, and any exposure value not selected will be represented as it appears in the underlying image.. There is a reference bar at the bottom of the image indicating the exposure range each Zebra pattern represents.

TOOLS: LUT OPTIONS

The Zebras tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

Waveform

WFM



Tapping button activates Waveform. Holding button brings up Waveform settings. A Waveform is an exposure tool used for measuring the brightness of the image throughout the frame. It can be set for overall brightness (Luma), with the three color channels separated (RGB Parade), or as the individual color channels only (Red, Green, or Blue). The Waveform display aligns left-right to the image on the OLED display. In Multi-Stream mode, if two images are displayed side-by-side then the Waveform can be used to compare the signals.

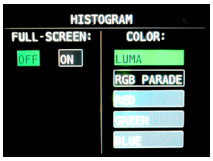
The Waveform can be displayed across the majority of the OLED screen or in the lower right corner. In the large display, the RGB Parade shows three individual waveforms side-by-side in their appropriate colors, while in the small display the three colors overlap. The Waveform background can be switched between translucent and opaque to allow the video image to be visible behind the Waveform display for reference. A graticule overlay indicates exposure value references in 10% increments in the large display and 20% increments in the small display, both with an additional reference for 109%. The full range displayed is from -7% to 109%.

TOOLS: LUT OPTIONS

The Waveform tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

Histogram

HIST



Tapping button activates Histogram. Holding button brings up Histogram settings. A Histogram is an exposure tool indicating brightness by volume of image across a horizontal plane. The brighter the image the farther it is to the right. The more of an image registering at a particular brightness the taller the line graph at that brightness. It can be set for overall brightness (Luma), with the three color channels separated (RGB Parade), or as the individual color channels only (Red, Green, or Blue).

The Histogram can be displayed across the majority of the OLED screen or in the lower right corner. In the large display, the Histogram can display Luma, RGB Parade (as color overlaps), or the individual color channels (Red, Green, or Blue). In the small display Luma and RBG Parade (overlap) can be displayed. On the large display, graticules indicates exposure value references in 10% increments with an additional reference for 109%. The full range displayed is from -7% to 109%.

TOOLS: LUT OPTIONS

The Histogram tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

MORE TOOLS

This setting alternates the button on the Lower Tool Bar to the left of the HIDE button between the HISTOGRAM tool and the VECTORSCOPE tool.

Vectorscope

VEC

Tapping button activates Vectorscope. Holding button brings up Vectorscope settings. A Vectorscope measures the color spectrum represented in the video signal. Different hues are represented by the rotation around the circle. Different saturations are represented by the distance from the center to the perimeter of the circle. Reference targets represent specific values in both hue and saturation. Two diagonal lines bisect the Vectorscope circle. The “I” line passes from orange to blue hues, and roughly represents the tonal reference for common skin tones. The “Q” line passes from green to magenta and is useful in indicating imbalance between those opposing hues.

The Vectorscope can be displayed as a small circle in the lower right corner of the OLED or a large circle filling the center of the OLED. The background can be black or translucent so that the source video is visible. The I/Q lines can be displayed or shut off. The color reference targets can be located at 75% or 100% saturation levels to accommodate different incoming reference signals. The Vectoscope can display in an Analog or Digital format. In Analog, the video image is scanned from left to right and this “trace” is represented as a continuous line connecting the different color references in the signal. In Digital only the color references are displayed. The Vectorscope trace can display in green or in a true color (true CbCr) representation that indicates both the hue and saturation.

The Vectorscope signal representation can be zoomed in order to better see subtle variations and to accurately align to certain reference charts. Adjust the zoom by a finger-drag on the OLED screen. Dragging a finger from left to right zooms from 1.0x to 15.0x in 0.1 increments. Dragging a finger from bottom to top zooms in preset magnifications of 1x, 2x, 5x, 10x, and 15x. A magnification indicator is displayed in the upper right corner of the image while the Vectorscope is active.

NOTE: The Vectorscope cannot be enabled during recording.

TOOLS: LUT OPTIONS

The Vectorscope tool can be set to measure the source video signal or the video with a LUT applied to it. This is a replication of a control in the LUT menu and adjusting it affects all Monitoring Tools. The Monitoring Tools (False Color, Monochrome, Zebras, Waveform, Histogram, Vectorscope) can always read the original input signal (LUT OFF), always read the LUTted image (LUT ON), or switch between them depending on what is displayed on the OLED (MIRROR OLED). A green bar connects the buttons for the monitoring tools to indicate when they are reading the LUTted image.

MORE TOOLS

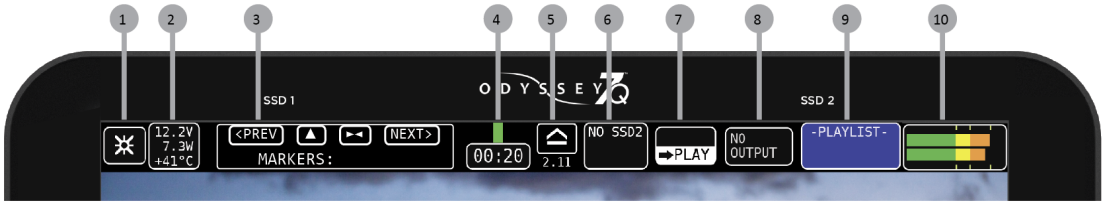
This setting alternates the button on the Lower Tool Bar to the left of the HIDE button between the HISTOGRAM tool and the VECTORSCOPE tool.

Hide *(hide menus & screen overlays/ video)*

HIDE

While the Odyssey’s OLED screen provides an excellent image with intuitive touch screen controls and information displays, sometimes one does not want to see it all. The Hide function can be set to make either the controls & displays disappear or the video image go black. A tap anywhere on the screen brings the full display back.

Upper Tool Bar (Play Mode)



1. MENU BUTTON
2. SYSTEM STATUS
3. MARKER CONTROLS *(PLAY MODE ONLY)*
4. SSD1 STATUS
5. SSD SAFE EJECT
6. SSD2 STATUS
7. REC/PLAY TOGGLE
8. CLIP METADATA
9. PLAYLIST
10. AUDIO

Marker Controls (Play Mode Only)

Clip Notes such as “Good Take” can be made for each clip. Text plus Good or Bad notes.Markers are flagged reference points within a file. Single flags as well as in/out points can be marked. Used in conjunction with the Convergent Design Apple ProRes Transfer Utility (1.4 or above) markers are translated into Final Cut 7 and FCPX .XML files. These can be imported into Final Cut 7, FCPX and Adobe Premiere. Up to 16 In and 16 Out points can be marked in a single clip, but more than one pair of In and Out points can only be read by FCPX.

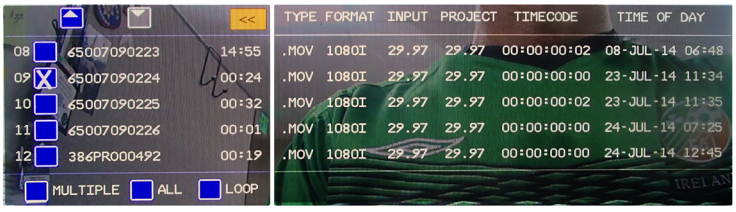
Input-Output Status

Displays current SDI/HDMI output status and settings. Tapping button brings up detailed information on the Input/Output Status and allows selection of input and output settings.

Replication of INPUT/OUTPUT STATUS button from RECORD mode (for details see page 24).

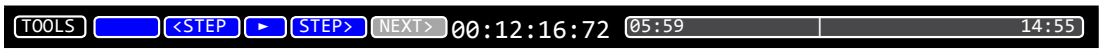
Playlist (Play Mode Only)

Tapping button displays a list of recorded files. Files can be selected for playback and can be continuously played back in a Loop.



Lower Tool Bar (Play Mode)

A different tool bar will appear at the bottom of the screen in Play Mode.



Tools/Scrub Buttons (Play Mode Only)

TOOLS SCRUB

Toggles Lower Tool Bar between PLAYBACK CONTROLS and IMAGE ANALYSIS TOOLS. For information on TOOLS, please see LOWER TOOL BAR (RECORD MODE) on p. 28.

Playback Controls (Play Mode Only)

<PREV ...

Playback controls are activated when TOOLS is selected. There are five deck-style play controls. <PREV and NEXT> skip to the previous or next file in a selected playlist.

<STEP and STEP> move a paused video file to the previous or next frame. ▶ & || toggle between play and pause.

Timecode (All Modes)

00:12:16:04

At the center of the Lower Tool Bar is a counter displaying timecode. This counter displays hours, minutes, seconds and frames in the format 00:00:00:00.

Scrub Bar (Play Mode Only)

Activated by toggling the TOOLS/SCRUB Button. The lower right tool bar is a bar that represents the full video file. The number on the left notes the time within the video file currently cued. The number on the right indicates the total time of the clip. A vertical line graphically represents the cue point within the file.

Drag a finger across the bar to move through the file. A finger dragged on the video image area itself is a more fine-tuned control. To play the file from the selected point, use the deck controls.

Recording to SSD Media

The SSDs will automatically Span from SSD1 to SSD2. This means that if a file is recording to SSD1 and fills the available memory, the recording will continue uninterrupted on SSD2. The exception to this is when recording in a high data rate mode that requires both SSDs to be recorded to simultaneously, such as FS700 Record Option, 2K RAW @ 240fps. For more information on record times and SSD capacity, see Record Time Capacities. A future free firmware update will also allow the option of simultaneous dual recording, in which both SSDs record identical files for backup purposes.

Loss of Power During a Record

You should never power off the camera while recording. Many camera's including the ALEXA, disable the user from doing so while recording. Included in the Odyssey is a recovery mechanism. In case of power loss, you may lose the last few frames of the recording, but not the entire last take. You will receive several error messages due to the loss of source. If the unit fails to close the last clip and return to normal operation once the source has returned, you will need to remove the power from the unit, then re-power the unit. After any failure of this type, the device will automatically mark the SSDs as full, once power is restored to the unit. You will need to offload the footage before you will be able to continue recording in order to help ensure proper recovery of the previous recordings.

Downloading Media

Always make sure to properly Safe Eject to dismount SSDs before removing from Odyssey.

While the Odyssey drives are exclusive Convergent Design products, they utilize a standard 2.5" SATA interface. No expensive proprietary download stations are required. Consumer card adapters such as Seagate GoFlex adapters (see *Third Party Accessories* in this manual) are available with Thunderbolt or USB 3.0 interface. Thunderbolt is fastest and USB 3.0 is most common and self-powering. Firewire 800 is not recommended as it will take a very long time to download files.

Convergent Design offers a USB 3.0 SSD Adapter (CD-SSD-USB3) through authorized dealers and distributors. This device allows you to access files on the Convergent Design SSDs on any computer with a USB 3.0 or USB 2.0 port. (Please note that USB 2.0 ports have much slower data transfer rates.)

After Safe Ejecting an SSD from the Odyssey7Q+ and mounting it to a computer, it is important to copy all files you wish to save. After copying all desired files, the SSD should be remounted in the Odyssey7Q+ and reformatted. DO NOT RESUME RECORDING ON THE SSD WITHOUT FIRST REFORMATTING. Many computers will automatically load hidden files onto the SSD that can adversely affect performance and clip file numbers might be repeated. If the SSD is reloaded and not reformatted then new files recorded may be unrecoverable.

If an SSD is Safe Ejected from an Odyssey7Q+ and then remounted in the Odyssey without having been connected to a computer, then recording to the SSD can continue without issue.

OTHER FILES ON SSD MEDIA

In addition to holding recorded files from the Odyssey7Q+, the SSDs are used to load data onto the Odyssey monitor/recorder. Periodic firmware updates can be downloaded from the Convergent Design website and copied onto an SSD, which when mounted in the Odyssey7Q+ will initiate the update process. Custom 3D-LUTs can be created in various programs and converted for use in the Odyssey7Q+ using the CD 3D-LUT Converter App. These LUT files can be copied onto an SSD, which when mounted on an Odyssey7Q+ will be available to then be saved into the internal memory using the LUT menu system.

It is recommended not to keep such files stored on SSDs you will be using for recording files from the Odyssey7Q+. Folders holding such files can be stored on your computer, or you can use a separate Odyssey SSD, inexpensive third-party SSD or an Odyssey Utility Drive to store such files.

File Storage

The Odyssey SSDs support read rates of 500 Mbytes/sec. Keep in mind you will be limited by the slowest media in the transfer process. For example: eSATA 3GBps interface cards have a max performance of ~270Mbps, and eSATA 1.5GBps have a max performance of ~130Mbps. Typical Hard Drives (non-RAID) generally perform anywhere in the range of 80-130MbpsFor maximum performance, make sure you are using eSATA 6 GBps, USB 3.0 or Thunderbolt to a RAID configuration.

Video Format	Video Data Rate	Suggested RAID Configuration Real Time Playback/Edit
ARRI/2K/1080p24 4:4:4 10-Bit DPX	186.6 MB/Sec.	300
1080p25 4:4:4 10-Bit	194.4 MB/Sec.	300
1080p30 4:4:4 10-Bit	233.3 MB/Sec.	400
1080p50 10-Bit	400 MB/Sec.	600
1080p60 10-Bit	500 MB/Sec.	600
HD Compressed Apple ProRes 422	30MB/Sec.	100
2K RAW 23.98-120	500 MB/Sec.	600
4K RAW 23.98-29.97	500 MB/Sec.	600
4K RAW 50/60p 2K 200/240p	850 MB/Sec.	1000

Convergent Design has free file utility programs, CD Transfer, CD Clip Merger, CD ProRes Transfer Tool and CD 3D-LUT Converter available for download for both Mac & PC on our website.
https://convergent-design.com/support/firmware-downloads/software-utilities.html

CD Data Unpacker

Higher frame rate 8-12-bit (1920x1080, 2048x1080) DPX files are recorded in "Packed" files. CD Data Unpacker Utility copies and converts 1080p/59.94 and 1080p/60 DPX files and clips. The DPX files are converted from a "Packed" to "Unpacked" data format. Other DPX frame rates and other files formats do not need unpacking.

CD Clip Merger

Some high data rate formats need to be striped (aka RAIDed) across two SSDs when recording in the Odyssey. After offloading these file folders onto a local drive on a computer, CD Clip Merger combines matching RAIDed folders into single file folders.

Odyssey RAIDed recording formats include ARRIRAW 4:3 @ 48fps and Sony FS700 2K RAW @ 200fps and 240fps.

Basic Instructions for Using CD Clip Merger Software

1. Create a folder to hold your footage on our Hard Disk Drive or Raid System, giving it a name meaningful to you, such as "Project Name - Camera A - 2013-09-12"
2. Open the }CLIPS{_Odyssey folder on your first SSD and copy all of the folders to the folder created in Step 1. Do not copy the folder itself, copy the contents of the folder.
3. Open the }CLIPS{_Odyssey folder on your second SSD and copy all of the folders to the folder created in Step 1. Do not copy the folder itself, copy the contents of the folder.
4. Run the CD Clip Merger Program.

Additional instructions are available in the "Readme" file included in the download.

CD Apple ProRes Transfer Utility

Updated to v1.8 for LUT info in metadata and international compatibility. Copies Apple ProRes files recorded on the Odyssey and merges files within each clip. Also optimizes Apple ProRes clips for playback and editing. Version 1.5 and later supports Markers and Clip Notes functions in PLAY Mode. Markers and Notes are exported to a Final Cut XML file for FCP7, FCPX, Adobe Premiere and Resolve 10 & 11.

Note: While not required, offloading files from SSDs using this tool is a more efficient workflow than other methods.

Installation Instructions

1. Download the CD Apple ProRes Transfer Tool installation files from the Convergent Design website on the SOFTWARE/UTILITIES page at Convergent-Design.com/support/firmware-downloads/software-utilities.html
2. Uncompress the zip file and open up the ProRes Transfer folder.
3. Run the ProResTransfer.jar application.

Note: The ProRes Transfer Tool uses Java. Mac users need to download and install Java JRE 1.6 from the Apple website here: http://support.apple.com/kb/DL1572

Notes about Version 1.5

- Support for 47.95p and 48p files
- Ability for user to change Project Rate during .mov file transfer. Files default to recorded rate.
- Markers expanded to include Clip Notes and Good/Bad notation.

Notes about Version 1.4.4

- FCP X, fix for 4k and UHD. Minor issue with the format string used in the import.
- FCP X, Added an Out marker to clarify the IN-OUT duration.
- FCP X, Made IN markers “green”, Out makers “red”, and Markers “blue” by using different marker states.
- Updated the doc to reflect the above changes.

Notes about Version 1.4.2

- FCP 7 - Project, Bin, and Sequence removed. Just bare movies are imported in selected project.
- Added elements so you don’t see the import pop up
- FCP X - Changed project/event name to clip name
  Added project name to note
- FCP 7 - Project, Bin, and Sequence removed. Just bare movies are imported in selected project.
- Added elements so you don’t see the import pop up
- FCP X - Changed project/event name to clip name
- Added project name to note

CD 3D-LUT Converter

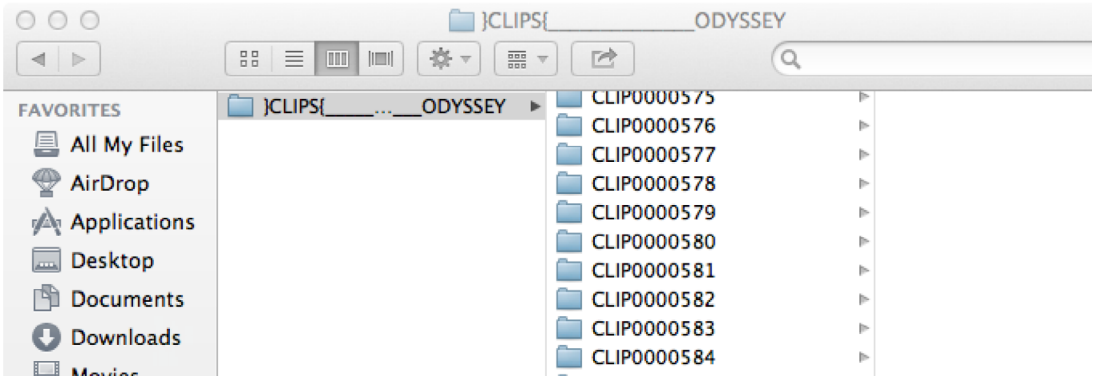
Convert 3D Look Up Table (LUT) files in .cube format to Convergent Design binary file format for use in the Odyssey7Q and Odyssey7Q+ monitor/recorders. Appropriate .cube files can be created in programs such as DaVinci Resolve and Pomfort LiveGrade. 3D-LUTs can be accepted in 17x, 33x, 48x and 65x formats.

Versions are available for Mac and Windows. The CD 3D-LUT Converter is a Java-based utility and Java software is required to be installed on the host computer to run the program. The Mac version requires Java JRE1.6 or higher and the Windows version requires Java JRE6 or higher.

Working with Recorded Files

There are numerous post systems and NLEs that can read natively the various file formats recorded by the Odyssey. Some NLEs may require plug-ins in order to read certain file formats. Blackmagic Design Resolve software is available for free and can read all formats recorded by the Odyssey.

File Structure



Uncompressed Support (DPX sequence)

All Uncompressed recordings on the Odyssey are recorded as 10 bit RGB 4:4:4 DPX, this is for all sources regardless if the source is 8 bit, 10 bit, 4:2:2, 4:4:4. With 12 bit cameras the files are recorded as a 16 bit DPX, for more universal compatibility. Also note that with DPX files, timecode and Clip Metadata are stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16 bit Uncompressed WAV audio.

Also Note 1080p59.94/60p, 1080p119/120 and 12 bit files are recorded as Packed, so our CD unpacker utility will need to be used before the files can be used in any editor.

NATIVE 10-BIT / 16-BIT DPX SUPPORT

Adobe CS6 / Adobe CSCC/2014
Apple Color
AutoDesk Smoke
Assimilate Scratch Lab
Avid DS
Black Magic DaVinci Resolve
Cineform Studio
ColorFront OnSet Dailies
DJViewer
Eyeon Fusion
Grass Valley Eduis (Does not support 16-Bit)
The Foundry Nuke
Xnview(Does not support 16-Bit)

PLUGINS FOR DPX SUPPORT

Glue Tools
Apple FCP Pro
Apple FCP Pro X
Meta Fuse
Avid Media Composer

Apple ProRes

The Odyssey can record in Apple ProRes 422 (HQ), Apple ProRes 422 and Apple ProRes 422 (LT) compressed codecs. This allows for high quality recording while avoiding high data rates of working with uncompressed video.

PRORES 422 (HQ)	The Apple ProRes 422 (HQ) codec offers the utmost possible quality for 4:2:2 or 4:2:0 sources (without an alpha channel) and provides the following: • Target data rate of approximately 220 Mbps (1920 x 1080 at 60i) • Higher quality than Apple ProRes 422
PRORES 422	The Apple ProRes 422 codec provides the following: • Target data rate of approximately 145 Mbps (1920 x 1080 at 60i) • Higher quality than Apple ProRes 422 (LT)
PRORES 422 (LT)	The Apple ProRes 422 (LT) codec provides the following: • Roughly 70 percent of the data rate of Apple ProRes 422 (smaller file sizes than ProRes 422) • Higher quality than Apple ProRes 422 (Proxy)

NATIVE APPLE PRORES SUPPORT

Adobe CC 2014*
Apple FCP X, Aperture
Cineform Studio
Final Cut Pro 7
Black Magic DaVinci Resolve
The Foundry Nuke
Autodesk Smoke
Sony Vegas

FS700 RAW Support (DNG Sequences)

All FS700 RAW recording on the Odyssey is recorded as a 12-bit linear CinemaDNG file. With DNG files, timecode and clip metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16 bit Uncompressed WAV audio.

It is important to correctly set the white balance of the camera, as this is baked into the RAW file.

NATIVE CINEMADNG SUPPORT	
Adobe CC 2014*	Assimilate Scratch Lab (future update)
Apple FCP X, Aperture	Black Magic DaVinci Resolve

**Pending next Adobe CC update.*

FS700 RAW: Dealing with RAW Files

Note that FS700 RAW files are Linear, thus the files need a Gamma 2.2 correction in order to look correct. You may notice when you first import your files that they appear very dark before correction.

FS700 Davinci Resolve Import Settings

1. Right click on the file and select “Edit CinemaDNG Codec Settings”
2. Then under the CAMERA RAW select be sure CinemaDNG is selected from the drop down menu.
3. Set the Decode using method to CinemaDNG Default* (Also be sure your project is setup correctly)
4. Set the White Balance to As Shot
5. Set the Color Space to Rec709
6. Set the Gamma to Rec709
7. Leave Highlight Recovery off
8. Click Apply

The Media Pool Camera RAW settings are the same as the ones in the color page and these are designed for individual clip adjustment so its better to first set the ‘Project Settings’, ‘Camera RAW’ as you need for the whole project.

Select ‘Project Settings’, ‘Camera RAW’, ‘CinemaDNG’ and make sure the ‘Decode using’ is set to either ‘CinemaDNG Default’ or “Camera Metadata’

The “Camera Metadata’ is the default and the best place to start if you need to change an individual clip with camera RAW.

The Media Pool settings are helpful if you have a mix of different clip types, you can sort by codec, select a group and adjust.

For your convenience, Convergent Design has generated several example LUTs that can be applied to your RAW footage. Keep in mind these LUTs are an approximation, and may need adjustment depending on your application.

These LUTs are available in the Firmware/Downloads section of the Convergent Design website.

**Also note that using camera metadata or CinemaDNG default is also supported.*

To Load 3D LUTs into Davinci Resolve

1. Select the Project Settings wheel, and navigate to Look Up Tables
2. Select Open LUT Folder, and copy the included example LUTs into this folder.
3. Now Select Update Lists
4. Now in the Media Browser you can right click on your RAW file and select 3D LUT and select the LUT you wish to apply from the list.

Note the following about each CD example LUT, and you should adjust the LUT based on your application.

FS700_1.11.100_SLOG.cube

This LUT can be applied to view a simulated S-Log2 look based on the RAW recording with the S-Log2 picture profile, also note the image should closely match the internal media.

FS700 FCP X Import Settings

Once you have created a new project be sure to check the following Settings:

1. Under Final Cut Pro select Preferences
2. Be sure the Still Images editing duration is set to 0.0.1 Seconds
3. Select navigate to File and select Import Media
4. Navigate to the Clips directory, and select the Clip Folder contain your FS700 RAW files.
5. At this point you can start correcting the files to a 2.2 Gamma using the Color Board.

** Note if you are recording the internal media you can import the matching S-Log2 file, and select Match Color for a close approximation of S-Log2, but will most likely need additional tweaking.*

Canon C500 4K RAW Support

All Canon C500 4K recording on the Odyssey is recorded as 10 bit Cinema RAW file.

Also note that with RMF files timecode, and Clip Metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 32 bit Uncompressed WAV audio.

It is important to correctly set the white balance of the camera, as this is baked into the RAW file.

NATIVE CINEMA RAW SUPPORT

Assimilate Scratch Lab	Black Magic DaVinci Resolve	Canon Cinema RAW Development
Adobe CC 2014		

ARRI Alexa ARRIRAW Support

All ARRI Alexa ARRIRAW recordings on the Odyssey are recorded as 12 bit ARRIRAW file, also NOTE that with ari files Timecode, and Clip Metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16 bit uncompressed wAV audio.

NATIVE ARRIRAW SUPPORT

Adobe CS6 / Adobe CSCC 2014	Black Magic DaVinci Resolve	The Foundry Nuke
AutoDesk Smoke	Cineform Studio	ColorFront OnSet Dailies
Assimilate Scratch Lab	Eyeon Fusion	

For a more extensive list on ARRIRAW and workflow please visit ARRI's website at:
http://www.arri.com/camera/digital_cameras/workflow/working_with_arriRAW/recording/arriRAW_t_link/

Convergent Design Accessories

All Convergent Design products are available through our worldwide dealer network. Visit us online at Convergent-Design.com/dealers to find our nearest authorized dealer

Power Supply Options

The Odyssey can accept DC power ranging from 6.5-34v. This means that small camcorder batteries, large camera bricks and even large block batteries or belts can be used to power the device. Depending on monitor and record modes, the power draw from the Odyssey can range from 8-15w. Even small camcorder batteries can power the Odyssey for several hours.

The Odyssey is supplied with a Convergent Design AC power supply. This is a universal switching power supply that can be used throughout the world, and comes complete with several interchangeable plug connectors. Only use a Convergent Design AC power supply on the Odyssey.

Odyssey Replacement AC Power Supply CD-OD-AC-PS

The Odyssey uses a Neutrik 3-pin connector for power input. Convergent Design has modified this connector for reliability, strength, and protection from shorting. Convergent Design supplies cables to 3rd party manufacturers of battery plates and other Odyssey accessories.

ONLY USE A CONVERGENT DESIGN POWER CABLE ON THE ODYSSEY.

Optional Power Cables

Anton Bauer D-Tap 12v power cable to Odyssey (18")	CD-OD-DTAP
XLR-4 (generic 12v) power cable to Odyssey (18")	CD-OD-XLR
Fischer-3 (ARRI 24v) power cable to Odyssey (18")	CD-OD-Fischer
Flying lead (bare wire pigtail) power cable to Odyssey (36")	CD-OD-Flying

http://convergent-design.com/products/accessories.html

Battery PLATE OPTIONS

Convergent Design offers a series of rear plates for the Odyssey that accept various manufacturers' small camcorder batteries.

Odyssey battery plate for SONY L-Series batteries	CD-OD-SLPlate
Odyssey battery plate for SONY U-Series batteries	CD-OD-SUPlate
Odyssey battery plate for Canon BP-9x Series batteries	CD-OD-CBPlate
Odyssey battery plate for Panasonic CGA-Series batteries	CD-OD-PCGAplate
Odyssey battery plate for JVC Camcorder-style batteries	CD-OD-JVCplate

http://convergent-design.com/products/accessories.html

Teradek Battery Plates

Convergent Design also makes battery plates that can also hold and power a pair of Teradek Bolt video receivers along with the Odyssey. Two camcorder batteries (one for the Odyssey, one for the Teradeks) are used or a single large battery. These plates are shipped in kits that include short SDI cables and power cables for the Odyssey and Teradeks.

Teradek battery plate for 2x Sony L-Series batteries	CD-OD-BOLT-SLPLATE
Teradek battery plate for 2x Sony U-Series batteries	CD-OD-BOLT-SUPLATE
Teradek battery plate for 2x Canon BP-9x Series batteries	CD-OD-BOLT-CBPLATE
Teradek battery plate for 2x Panasonic CGA-Series batteries	CD-OD-BOLT-PCGAPLATE
Teradek battery plate for IDX V-mount batteries	CD-OD-BOLT-IDXPLATE
Teradek battery plate for Anton Bauer 3-stud batteries	CD-OD-BOLT-ABPLATE

http://convergent-design.com/accessories/50-teradek-battery-plate-kit.html

Odyssey Sun Hood

The Convergent Design Odyssey Hood is a sturdy, but flexible three-sided sunshade specifically designed for the Odyssey. The hood attaches to the side 1/4-20 mount sockets on the Odyssey. If there is another item such as a mount that uses these side sockets, the Odyssey Hood's bolts can be removed and the other item's bolts can be passed through the Hood into the Odyssey. The Odyssey Hood folds flat for storage and can rest atop the Odyssey within the Odyssey Case. When the Hood is folded the mounting bolts do not protrude long enough to make contact with any surface, so as not to scratch the Odyssey screen in transport.

Odyssey Sun HOOD CD-OD-HOOD

http://convergent-design.com/accessories/88-odyssey7-7q-sun-hood.html

Odyssey Aluminum Table Stand

The Convergent Design Odyssey Aluminum Table Stand attaches to the Odyssey. While only five ounces, it is tall enough to protect the cables and connectors attached to the bottom of an Odyssey. The design tilts back the screen for comfortable viewing while also centering the weight over the stand for balance.

The stand can support an Odyssey alone or with any Convergent Design battery mount with full clearance and stability. There is also a standard 5/8" socket with tie-down bolt to mount the stand onto a standard light stand or baby pin. The stand also functions as a "chest offset" when an Odyssey is worn with a neck strap so the operator doesn't have to look uncomfortably straight down.

Odyssey Aluminum Table Stand CD-OD-AL-TS

http://convergent-design.com/accessories/36-odyssey7-7q-aluminum-table-stand.html

Odyssey Protective Case

The Convergent Design Odyssey Case is based on a Nanuk 910 case with custom foam insert. The use of precision-cut rigid foam means less is needed for protecting the gear The main cutout for an Odyssey includes removable layers of rigid foam to allow the Odyssey to fit snugly when bare or with a variety of battery plates and 3rd party accessory mounts. This includes all Convergent Design mounting plates, including the Teradek Bolt Adapter Plate, complete with wireless receivers mounted and all cables plugged in. An additional cutout is large enough to hold SSDs, cables, USB adapter, batteries, Teradek Bolt transmitters, etc.

Odyssey Protective Case CD-OD-CASE

http://convergent-design.com/accessories/37-odyssey-case.html

Odyssey Ultra-Thin-SDI Cable

The Odyssey Ultra-Thin SDI Cable is a flexible and lightweight cable for use with the Odyssey. The SDI cable is rated for 3G signals and is useful in camera-mounted installations where its thinness and flexibility will help keep it out of the way for operators. Despite its small size, the SDI Cable is quite rugged and can even be tied in knots without effecting performance. Standard lengths are 18" and 36" with custom lengths available by special order.

Odyssey Ultra-Thin SDI Cable CD-OD-SDI

http://convergent-design.com/accessories/51-ultra-thin-sdi-cable.html

Odyssey Utility Drive

The Odyssey Utility Drive is designed as a lower cost alternative to the Odyssey Premium SSD media for secondary tasks. The Odyssey Utility Drive can be used for Odyssey firmware updates, Odyssey 3D-LUT files and other future functionality. The Odyssey Utility Drive will not record video files. It is intended for Odyssey owners who do not wish to tie up an Odyssey SSD with utility features, or for Odyssey owners who use their devices primarily as monitors and do not need to purchase large-capacity recording media.

Odyssey Utility Drive CD-SSD-UTILITY

http://convergent-design.com/accessories/75-odyssey-utility-drive.html

Odyssey SSD to USB 3.0 adapter

To connect an Odyssey SSD to a computer for downloading files, the computer needs to be able to mount an eSata 2.0 connection. For computers without such connectivity, the Convergent Design SSD to USB 3.0 Adapter is an inexpensive cable-style adapter to allow the Odyssey SSD to connect to a USB 3.0 port. 6Ghz transfer speed. *NOTE: While the Convergent Design USB 3.0 Adapter can be connected to a USB 2.0 port, download speeds will be extremely slow, requiring many hours to offload an SSD.*

Odyssey SSD to USB Adapter CD-SSD-USB3

http://convergent-design.com/accessories/38-usb-3-0-ssd-adapter.html

ODYSSEY RACK MOUNT KIT

The Convergent Design Odyssey Rack Mount Kit accepts one or two Odyssey units. Monitors face forward for easy viewing and tilt forward for access to SSDs. A pass through patch bay is included on the back along with short jumper cables for complete connectivity.

Odyssey Rack Mount Kit CD-OD-RACK

ODYSSEY SCREEN PROTECTORS

The Convergent Design Odyssey Screen Protector is a stick-on/peel-off clear shield for the glass screen on the Odyssey. It includes the inked labeling for the connectors and controls on the device. This is a replacement item for the screen protector that ships installed on the Odyssey.

Replacement Odyssey7 Screen Protector CD-OD-SP7
Replacement Odyssey7Q Screen Protector CD-OD-SP7Q
Replacement Odyssey7Q+ Screen Protector CD-OD-SP7Q**PLUS**

http://convergent-design.com/accessories/85-odyssey-screen-protector.html

ODYSSEY MICROFIBER CLEANING CLOTH

Cloth for cleaning the Odyssey screen CD-OD-MFC

For information on where to buy these accessories and other Convergent Design products please visit the Dealers section of our website at Convergent-design.com/dealers.

ODYSSEY Remote Trigger

The Convergent Design Odyssey Remote Trigger is a pushbutton active remote start/stop trigger for Odyssey monitor/recorders. The trigger button illuminates while recording. The trigger plugs into the RMT port on the left side of the Odyssey and comes in a six foot standard cable length. Custom cable lengths and breakout cables for triggering multiple Odysseys are available for special order.

Odyssey Remote Trigger CD-OD-REMOTE

Third Party Accessories

Convergent Design works with numerous manufacturers for additional support products for the Odyssey Monitor/Recorders. While we have provided information and support, Convergent Design makes no claim and accepts no responsibility in the use of these products. These products are available through these manufacturers' own dealers.

See the complete list with links to the manufacturers' websites at Convergent-Design.com.

SATA Adapters

THUNDERBOLT	Seagate GoFlex Model STAE128 or STAE129 We have measured 325-375MB/sec transfer rates to a fast RAID drive, depending on your configuration.
USB 2.0 / 3.0	Seagate GoFlex Model STAE104 or Calvary USB 3.0 Adapter, Model CAUSM2001. An ExpressCard 34 to USB 3.0 adapter may be required for full USB 3.0 compatibility. However, USB 2.0 works fine to copy firmware updates to the SSD.

Firmware Version 2015.8

NEW FEATURES (ODYSSEY7Q+)

CANON XC10 SUPPORT

- UHD Apple ProRes 23.98p, 25p, 29.97p
- UHD->HD SuperSample to Apple ProRes 23.98p, 25p, 29.97p
- (Camera trigger & HDMI timecode in HD Only)

NEW FEATURES (ODYSSEY7Q+ / ODYSSEY7Q)

FS7/FS700 HIGH SPEED RAW -> APPLE PRORES SUPPORT

FS7/FS700:

- 4K RAW -> 4K Apple ProRes, 50p & 60p added
- 4K RAW -> UHD Apple ProRes, 50p & 60p added
- 2K RAW HS -> HD Apple ProRes, 100p, 120p, 200p, 240p
  (Only one SSD can be mounted for recording 2K HS Apple ProRes)
  (Only Odyssey int. TC supported (Seed, Time-of-Day DF & NDF)

FS700 only:

- 4K RAW Burst -> 4K Apple ProRes, 100p & 120p
- 4K RAW Burst -> UHD Apple ProRes, 100p & 120p

NOTE: Requires Odyssey RAW Bundle or Sony FS RAW Option

CANON C300 MKII RAW SUPPORT

- 4K RAW recording up to 30p
- QHD RAW recording up to 30p
- 4K RAW -> 4K Apple ProRes up to 30p
- QHD RAW -> UHD Apple ProRes up to 30p

NOTE: Requires Odyssey RAW Bundle or Canon RAW Option

NEW FEATURES (ODYSSEY7Q+ / ODYSSEY7Q / ODYSSEY7)

VECTORSCOPE

- Analog or Digital Trace
- Trace display in green or color (true CbCr)
- Variable Zoom 1.0x - 15.0x (Finger Drag left-right)
- Zoom Presets 1,2,5,10,15x (Finger Drag up-down)

FIXES & IMPROVEMENTS

- FIXED Audio issues in 1080i59.94 playback
- FIXED 4K to 2K/HD Downscale Line at the bottom of image.
- IMPROVED Color Bars
- IMPROVED Odyssey Menu Font

KNOWN ISSUES

- 2K Raw 23.98-60p is not supported in 2K Raw HS to HD ProRes.
- On Canon XC10 camera trigger and HDMI timecode are not supported in UHD but work in HD.

KNOWN ISSUES FROM 2015.7

MONITOR

- 4K HDMI input, HDMI output has lines in the image. Note SDI output is unaffected. Recording is unaffected.
- Color Bars on, powering up unit with video source connected can result in a black screen. Disconnect SDI or HDMI to remedy.
- Some Preset LUTs may need to have Extended/Legal ranges adjusted when selected.
- Image Analysis Tool Overlays are slower than previous firmware (Lines on the display).
- Graticules for Image Analysis Tools are not currently displayed on the video outputs.
- Anamorphic Desqueeze is not supported in Canon Half Raw at this time.
- When PSF output is selected OLED display is interlaced.

PLAY

- Playback of Sony 4K RAW (on Odyssey7Q+ only) occasionally shifts image slightly horizontal. Recording is unaffected.

RECORD

- Remove 3:2 Pulldown is not supported in DPX.
- Occasionally when viewing or recording 4K/UHD->2K/HD SuperSample, lines can appear on the OLED display. Recorded files as unaffected.
- IN FS700 4K Raw Burst mode (100p/120p), ten extra frames are recorded at the end of each clip. Occasionally these are bad frames. This will be corrected in future firmware from 450 frames to proper 440 frames.
- IN FS700 4K Raw Burst mode (100p/120p) -> 2K/HD Apple ProRes, the amount of frames that are recorded may vary based on trigger type and clip to clip. Note the Odyssey always records 420+ frames in this mode.

OPERATION

- SSD Detection is longer than previous 5-10 seconds.
- Loading of SSD LUTS can take up to 30 seconds.
- Occasionally LUT deletion does not work correctly. Deleted LUTs may reappear after power cycle. Resetting LUTs in *->ODYSSEY->RESET menu will delete all imported LUTs.

PREVIOUS KNOWN ISSUES

AUDIO

- SDI/HDMI outputs occasionally will not carry audio. Cycle Odyssey power to restore.
- SDI/HDMI audio occasionally will have a static pop when powering up.
- Audio will occasionally swap tracks when recording in DPX.
- Using Analog Audio and HDMI video, occasionally SDI, HDMI and headphone outputs do not carry audio.
- Audio output (headphones) occasionally flips channels.

MONITOR

- Focus Assist in Edge Enhanced mode and recording Apple ProRes 422(HQ) shows edges as white instead of selected color.
- PIXEL ZOOM in RAW or DPX occasionally causes stretching of image.
- Recording is unaffected.
- Switching between ARRIRAW 1.5G DL and 3G DL occasionally can make the image incorrect on the OLED screen. Disconnect & reconnect one of the SDI inputs to correct. Recording is unaffected.
- SDI/HDMI outputs have a pink line in image on Canon C500 2K 12-bit/10-bit video. Recording is unaffected.
- IO Industries RAW files do not send color balance metadata to the Odyssey7Q so images appear incorrect. Recorded metadata color balance is set to 5600K but is not baked in.

PLAY

- PLAY mode audio occasionally out of sync.
- Playlist occasionally reports timecode as “00:00:00;00”. Eject and re-insert
- the SSD to correct.
- FS700 RAW files occasionally show vertical line on right edge of frame.
- Recording is unaffected.
- FS700 RAW 60p files occasionally play with jitter. De-select and
- re-select to correct. Recording is unaffected.
- Multiple clip playback not supported in RAW formats.
- Canon UHD RAW occasionally plays back black image. De-select and re-select to correct. Recording is unaffected.

RECORD

ARRIRAW 4:3 mode is currently unsupported.

POST

- FS RAW files appear green when imported directly into SpeedGrade. This is corrected in Speedgrade 2015.
- Pending Adobe update, import via dynamic link from Premier.
- Canon Cinema 4K half RAW 100/120 does not work in Adobe or Resolve
- Working with Adobe and BMD to resolve.
- In Resolve 11 Lite, FS7 and FS700 RAW (CinemaDNG) files may appear underexposed please follow the setup guide found here (FS7 Workflow Guide by Nick Shaw) :https://convergent-design.com/odyssey7q-knowledge-base.html?kbartid=28

NOTE: Updating firmware on an Odyssey monitor/recorder requires the use of an SSD. If an Odyssey monitor/recorder is currently running firmware version 5.10.100 (March 2015) or 2015.5 (May 2015) then a qualified Samsung SSD (see list above) as well as an Odyssey SSD can be used to perform the update. Samsung SSDs require the Convergent Design SSD Handle kit to mount in an Odyssey monitor/recorder. Odyssey monitor/recorders running earlier firmware versions must use an Odyssey SSD to perform the update.

Firmware Version 2015.7

NEW FEATURES (ODYSSEY7 / ODYSSEY7Q / ODYSSEY7Q+)

THIRD-PARTY SSD SUPPORT

Use qualified third-party SSDs in Odyssey monitor/recorders. (SSD Handle kits required to mount.)

Qualified third-party SSDs:

- **Samsung 850 PRO** in 128GB, 256GB, 512GB & 1TB (1024GB)
- **Samsung 850 EVO** 1000GB

NOTE: *Samsung SSDs draw more power than Odyssey SSDs. Convergent Design highly recommends using an AC-powered USB3 adapter or a Thunderbolt adapter when connecting Samsung SSDs to a computer.*

ADDITIONAL ANAMORPHIC DE-SQUEEZE OPTIONS - CENTER EXTRACTION

Desqueezes and magnifies center portion of image for common anamorphic formats. Adjusted image sent to video outputs; recording unaffected.

Center Extraction modes:

- 1.33x (1.78:1) Stretches center 4:3 image to cover 16:9 frame
- 2.0x (2.39:1) 2.0x stretch with image zoom & crop to 2.39:1
- 2.0x (2.67:1) 2.0x stretch with image zoom to 2.67:1

HYPER ZOOM

Additional Pixel Zoom mode. 4,6,8,10, & 12X Hyper Zoom on a selected portion of image, displayed in the lower right corner of OLED display. Selectable Color reference frame

EXPOSURE COMPENSATION LUTS

Combination S-Log to REC709 and exposure compensation for re-rating FS7 and FS700 cameras to 1000ISO (1 stop over) or 500ISO (2 stops over). Reduces noise and increases apparent bit depth.

ADDITIONAL PRESET LUTS

Sony FS700 (Exposure Compensation)

- SONY_EE_SL2_L709A-1
- SONY_EE_SL2_L709A-2

Sony FS7 (Exposure Compensation)

- SONY_EE_SL3C_L709A-1
- SONY_EE_SL3C_L709A-2

FIXES & IMPROVEMENTS

- FIXED Histogram with 720p source
- FIXED Image tearing on PSF inputs in HD Prores
- FIXED DPX video outputs when PSF output turned on
- FIXED Appearance of a single pixel in or near the audio meters
- FIXED LUT Extended/Legal setting saved through a power cycle
- FIXED Scene and Project setting saved through a power cycle
- FIXED Audio corruption on DPX and DNG file spanning
- FIXED Audio playback on Odyssey in all ProRes formats
- FIXED Pixel Zoom reaches full image in 4K
- FIXED GH4 Motion Picture Luminance Level under 0-255
- FIXED FS7 Camera Trigger in HD Apple ProRes
- FIXED FS7 Camera Trigger in 4K Raw->Apple ProRes
- FIXED 4K RAW->2K/HD Apple ProRes 50p playback
- FIXED 4K RAW->2K/HD Apple ProRes 100/120p live image
- FIXED Stuttering video in FS700 4K RAW->HD/2K 100/120p burst mode
- IMPROVED On screen counter during LUT import
- IMPROVED Upper Toolbar Setup Menu

SOFTWARE UPDATES

CD Apple ProRes Transfer Utility 1.8 (PC / Mac)

- Fixes for installation Issues
- Fixes for transfer issues

CD LUT Utility 1.8 (PC / Mac)

- Fixes for installation Issues
- Fixes with issues due to region settings
- Fixes for inverted LUTs

NOTE: *Updating firmware on an Odyssey monitor/recorder requires the use of an SSD. If an Odyssey monitor/recorder is currently running firmware version 5.10.100 (March 2015) or 2015.5 (May 2015) then a qualified Samsung SSD (see list above) as well as an Odyssey SSD can be used to perform the update. Samsung SSDs require the Convergent Design SSD Handle kit to mount in an Odyssey monitor/recorder. Odyssey monitor/recorders running earlier firmware versions must use an Odyssey SSD to perform the update.*

Earlier Versions

Please see our website for release notes for earlier firmware versions.

Convergent Design warrants Odyssey, and all included accessories, against defects in material and workmanship for a period of one year for registered units, and 3 months (for units used as rentals) from the original date of purchase.

Convergent Design disclaims all other warranties.

Convergent Design will not be liable for damages of any kind, including, but not limited to, compensation or reimbursement on account of failure of the unit, or any of its accessories, or its recording media, external storage systems, or any other media or storage systems to record or playback content of any type. Also Convergent Design will not be liable for a failure of the unit to properly record or play back for any reason. Convergent Design's total liability, in all cases, is limited to the actual purchase price.

If you discover a defect, please refer to our Return Merchandise Policy below.

During the warranty period, Convergent Design, at its option, will repair or replace product or product components, which in its opinion prove defective, provided the unit is returned, freight charges prepaid, to Convergent Design. Parts and components used in the repair process may be recycled or repaired, at Convergent Design's sole discretion. This warranty service will be performed at no charge to the registered owner, provided the product is shipped prepaid to Convergent Design.

Convergent Design reserves the right to determine whether a needed repair is subject to the warranty as per its provisions stated herein. Transit damage caused by inadequate packing violates the warranty. The warranty will be void if, in the opinion of Convergent Design, the product has been damaged through accident, misuse, misapplication, or as a result of service or modification not authorized in writing by Convergent Design.

Opening the unit and breaking the warranty seals, voids the warranty, unless specifically authorized in advance by Convergent Design.

THE FOLLOWING ARE NOT COVERED UNDER WARRANTY, AND ARE ITEMS FOR WHICH CONVERGENT DESIGN DOES NOT ACCEPT ANY RESPONSIBILITY:

Damage due to the use of an AC power supply, other than the one supplied, or use of any inappropriate power source.

Damage due to overheating conditions. The unit will attempt to shut down, if powered on, in the event of overheating, before damage can occur.

Damage due to exposure to water, or other liquids, or excessive dust or sand.

Damage caused by dropping or other rough handling.

Damage caused by any over-voltage conditions or reverse voltage conditions.

Any physical damage to the OLED and/or Touch Screen including scratches.

Damage to any connector by using excessive force or rough handling.

Any loss or corruption of video or audio data recorded on the unit, or any loss or corruption of data that is in any way associated with the Odyssey.

Monitor/Record Options

SONY FS7/FS700	HD/2K 4:2:2 -> HD/2K ProRes (.MOV) FS 4K RAW -> HD ProRes (.MOV) FS 4K RAW -> 2K ProRes (.MOV) FS 4K RAW -> 4K ProRes (.MOV) FS 4K RAW -> UHD ProRes (.MOV) FS 4K/2K RAW -> RAW (.DNG) HD/2K 4:2:2/4:4:4 -> 4:4:4 (.DPX)
SONY	4K/UHD 4:2:2-> 4K/UHD ProRes (.MOV) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 -> 4:4:4 (.DPX)
CANON	CANON C500 4K/QHD RAW -> RAW (,RMF) CANON C500 4K/QHD RAW -> 4K/UHD ProRes (.MOV) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 ->4:4:4 (.DPX)
ARRI	ALEXA ARRIRAW -> ARRIRAW (.ARI) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 -> 4:4:4 (.DPX)
POV RAW	INDIECAM RAW -> RAW (.DNG) IO INDUSTRIES 2K/HD RAW -> RAW (.DNG)
OTHER	4K/UHD 4:2:2-> 4K/UHD ProRes (.MOV) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 ->4:4:4 (.DPX)
PANASONIC	4K/UHD 4:2:2-> 4K/UHD ProRes (.MOV) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 ->4:4:4 (.DPX)
RED	4K/UHD 4:2:2-> 4K/UHD ProRes (.MOV) HD/2K 4:2:2 -> HD/2K ProRes (.MOV) HD/2K 4:2:2/4:4:4 ->4:4:4 (.DPX)
MULTI-STREAM	4x HD MONITORING (no recording)

Online Resources

Home Page	http://convergent-design.com
New Account	https://convergent-design.com/new-north-america.html
Activate Device	https://convergent-design.com/next-steps
Products	https://convergent-design.com/products.html
Odyssey7Q+	http://convergent-design.com/products/plus.html
Odyssey7Q	https://convergent-design.com/products/odyssey7q.html
Odyssey7	https://convergent-design.com/products/odyssey7.html
Legacy Products	https://convergent-design.com/products/legacy-products.html
Odyssey RAW Bundle	https://convergent-design.com/products/odyssey-raw.html
SSD Media	https://convergent-design.com/products/premium-ssd-media.html
Accessories	https://convergent-design.com/products/accessories.html
Account Dashboard	https://convergent-design.com/dashboard.html
My Devices	https://convergent-design.com/my-devices.html
My Orders	https://convergent-design.com/my-orders.html
Update Profile	https://convergent-design.com/update-profile.html
Support	https://convergent-design.com/support.html
Firmware/Downloads	https://convergent-design.com/support/firmware-downloads.html
Knowledgebase	https://convergent-design.com/support/knowledgebase.html
Support Tickets	https://convergent-design.com/support/support-tickets.html
Videos	https://convergent-design.com/support/cd-videos.html
Company	https://convergent-design.com/company.html
Blog/News	https://convergent-design.com/company/blog-news.html
Contact Us	https://convergent-design.com/company/contact-us.html
Press/Media	https://convergent-design.com/company/press-media.html
Dealers	https://convergent-design.com/dealers.html
Dealer Inquiry	https://convergent-design.com/dealers/dealer-inquiry.html

© 2015 Convergent Design, Inc. - All Rights Reserved.
All copyrights and trademarks remain the property of their respective owners.

Updated August 3, 2015 2:39 PM

Fin